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A WORK PLAN FOR THE SECTION ON GYNECOLOGY AND OBSTETRICS*

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The Michigan State Medical Society, meeting at Jackson in 1886, passed a motion to establish sections of Medicine, Surgery, Midwifery and Gynecology "in order to facilitate professional and scientific work." The first Section meeting in our specialty was held in Lansing in 1887, forty-five years ago. The program for this meeting included papers on the following subjects: When Shall the Uterine Appendages be Removed? Ophthalmia Neonatorum: What is Vaginismus? Ovariectomy: Childbirth Lacerations; and many others quite as timely today as they were fifty years ago. In 1898 the name was changed to "Section on Gynecology and Obstetrics." During the intervening forty-five years contributions from the Section to the annual program of the State Medical So-

ciety have been characterized by the high quality and timeliness noted in the original papers. Individual effort has been predominant. In spite of the many commendable contributions during this time, we still seek the solution of many common obstetric and gynecologic problems. Evidence of this may be found by comparing the annual programs

*Chairman's address before the section on obstetrics and gynecology at the 112th Annual Meeting of the Michigan State Medical Society, Kalamazoo, September 14 and 15, 1932.

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from year to year. Few remedial measures can claim uncontroversial existence. To a degree this controversial element is desirable and doubtless will continue prominent so long as our programs and scientific contributions are chiefly the product of individual effort. After this half century of activity we may reasonably inquire whether or not as a group we are doing all in our power to advance obstetrics and gynecology. As individuals the answer is debatable but as a group the answer is "no." As a group we have not as yet accepted our full responsibilities. We have before us many problems which should receive serious deliberation. By uniting our efforts we can not only add to the accomplishments of this organization, but can also attend to those responsibilities which any organization of obstetricians and gynecologists expecting to retain a prominent place in medical work must assume.

Believing in united effort I venture to suggest a concerted work program. Since changes are apt to be associated with unforeseen difficulties, and since the chance for successful realization of any work program is enhanced by keeping it well within attainable goals, I have purposely limited my recommendations to three, each of different character, all having a timely and significant bearing on obstetric and gynecologic issues of today. Machinery for developing these projects will need to undergo changes from their original recommended form. That is a minor point, however. The important thing is the willingness of this organization to undertake work in addition to its annual contribution to the program of the Michigan State Medical Society.

Recommendation One.—This has to do with our *birth certificates*. One need only be reminded that there are over 90,000 births in the State of Michigan each year to realize what a wealth of material and abundant experience this number of confinements represents. No one would deny the value of a critical unbiased analysis of 90,000 confinements. Yet this analysis, as well as data concerning the pregnant and puerperal states of many of the women and information concerning the newborn, is accessible. By making suitable changes in our birth certificates much of this information would become available. Perhaps the desired end could be achieved by simply adding items to the present certificate. If so, altera-

tions which might interfere with or be unacceptable to such organizations as the United States Bureau of Vital Statistics and the American Public Health Association could be avoided. The possibilities of such changes are great; the data obtained would be of immense value in indicating the status of obstetrics in Michigan today and would be important in shaping obstetrics in this State in the future. Lest there be misunderstanding, it must be emphatically pointed out that much time and effort has already been exerted by organizations interested in public health and vital statistics in developing the birth certificate in its present form. Credit must be given for accomplishments already made. Furthermore, it must be pointed out that revision is not the simple matter it may at first appear. To be successful it must be sufficiently inclusive to warrant change, it must have the approval and the warm support of the profession of the State, it should be acceptable to the Bureau of Vital Statistics and other organizations interested in public health. With the hope of seeing the necessary alterations or additions become a reality, I recommend that a committee of five be appointed by our newly elected chairman to study and propose those revisions which will permit the accumulation of additional valuable information concerning the pregnant and puerperal states as well as the type, indications for and complications of delivery, and any other information the committee may deem advisable.

If, when the committee takes up its task, no satisfactory certificate be found, then it should become the duty of this committee to depart from the traditional form (if such form appears to have outlived its period of usefulness) and take the lead in devising a new and more comprehensive one. It is further suggested that this committee make its report at the next annual meeting of this Section, and in order to permit free discussion, that a copy of its recommendations be sent to obstetricians and gynecologists of this State some time before the annual meeting.

While we can only recommend that certain changes be made, it is to be hoped that they will receive the approval and support of the entire profession in the State. In this connection I am happy to say that the Commissioner of Health, Dr. C. C. Slem-

ons, has signified his willingness to coöperate in any effort which will lead to the betterment of obstetrics. A committee appointed for the purpose of making recommendations for revision of our birth certificates should seek the advice and assistance of the Commissioner of Health, as well as others interested in public welfare and vital statistics.

Recommendation Two.—This involves a highly controversial subject to which this group should give great deliberation. I have reference to *Birth Control*. It is not my intention to enter into any discussion of this subject at this time. Neither do I care now to argue for or against it. I am advocating, however, that the problem be given early serious consideration by this group. There is much to be said both for and against contraception. Too frequently we are blinded by or are over-enthusiastic about the aspects of the problem that are apparent to us and fail to give consideration to vastly different sides less apparent to us but obvious to others. No one can foresee all the evils or the benefits resulting from the use of contraceptives. Perhaps careful examination of the subject from all its angles would justify an expression of opinion from this body, and again it might make us hesitant about committing ourselves one way or another. Be that as it may, I believe it is highly incumbent on this group to give the matter its serious attention. The public, as well as the medical profession of the State, has a right to look to this Section for advice, and it seems to me we can no longer justly dodge the question. For us to look elsewhere for an answer to this problem is shirking our duty. As a second proposal, therefore, I suggest that Birth Control be made a subject for discussion in this section at our next annual meeting, at which time all aspects of the problem both pro and con may be carefully considered. In order that we may view the subject in a thoroughly dispassionate manner no aspect of the problem should be overlooked in this proposed symposium. It is further suggested that a committee be appointed to study Birth Control and make recommendations to this Section at the next annual meeting. In order to facilitate the work of the committee it is suggested that copies of all papers bearing on Birth Control which are to be included as part of the suggested

symposium be made available to the members of the Committee at least four weeks before the next annual meeting. If this Section is the active, healthy organization I believe it to be, it can no longer avoid consideration of this timely matter, even though it be controversial.

Recommendation Three.—The third recommendation deals primarily with *clinical obstetric and gynecologic problems*. Since its incipency this Section has had programs characterized by individual effort. Perhaps some significance may be attached to the fact that during this period but few of our every-day problems have been satisfactorily solved. The subjects discussed fifty years ago are as appropriate today as they were then. One would hesitate to say that the conscientious labors of these earlier workers fell short of their mark, yet opinions still differ as to the best method of treating most of the common gynecologic and obstetric conditions. A good example is the common uterine fibroid for which either surgery, or radium, or X-ray is advocated. Excepting the large or complicated fibroids, we find staunch advocates for each of the three methods. The same dissent occurs over pelvic inflammatory disease, incomplete abortion, prophylactic forceps, episiotomy, repair of old tears following delivery, et cetera. What does all this difference of opinion mean? Are there several ways of accomplishing *exactly* the same result, or is there a *best* method? If there is a best method many patients are being inadequately treated. Doubtless the fact that most reports of cases treated come from individuals, who though sincere are often biased or overly enthusiastic, partly accounts for this unsettled state. As mentioned earlier, a certain amount of this individual difference or controversial attitude is essential for the healthy development of any branch of science. Controversy generally means progress. Controversy will exist in connection with all situations where a definite, clear-cut superiority of one method is not demonstrable. Moreover, individual effort is basic and must not be belittled, yet if there were more concerted effort, more united interest, less selfishness and haste, more care and thoroughness in the consideration of many of our present medical problems it would be possible to arrive at the most desirable remedial measure. Believing as I do that

some of our common problems can be more satisfactorily studied if we unite in our efforts, I venture a third recommendation. Specifically, I suggest that the chair appoint a committee of five, to be known as the Committee on Clinical Problems, which will have a twofold task. First. The committee shall develop the necessary machinery for organizing individual physicians, clinics, or hospitals (that signify their willingness to cooperate) in a combined study of certain problems. These individuals, clinics, or hospitals are to be grouped according to their particular fitness, either in physical equipment, or in clinical material, to attack these problems. Second. The committee shall choose timely problems which will be readily adaptable to segmented study and at the same time permit satisfactory correlation of results. By way of illustration let us take four active obstetrical services, all in different cities manned by different groups of physicians. Let placenta previa be the problem. For a period of six months (or a year) each of the different services shall, so far as possible, follow one only of the *accepted methods* of treatment. At the end of six months (or year) the method of

treatment in each service will change so that in the end each shall have used all the different forms of treatment. Data for all cases treated in the four hospitals will then be collected and carefully analyzed, the final report being credited to those who have taken an active part in the work. Study of clinical problems in this manner would require time, but in the end the results would more than justify the time and energy required. Reports of this character should minimize over-enthusiasm and personal bias to a large extent, and tend to establish the most desirable method of treatment. The plan could be developed to apply to many of the common clinical obstetric and gynecologic problems. If care is used in the selection and distribution of these problems, if haste is not made a paramount factor, concerted effort of this sort should pay big dividends in the form of worth-while contributions to our medical knowledge.

I believe these recommendations to be sound. If those delegated to carry on the active work are given the wholehearted and sincere support of the profession I am satisfied that this program for united endeavor need not be just another case of medical utopianism.

TUMORS AND THEIR BEHAVIOR*

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In normal tissues the cells are alike and always the same, and in them cell division always follows a definite pattern.

Research workers in cancer, more especially the cytologists, are convinced that cancer is a disease of the cell which manifests itself during division. While the division of the majority of the cells in cancer is, after all, quite normal, there are many abnormal types, including mitosis, direct nuclear division and direct and indirect fragmentation. Of these the chief mode of division is by mitosis. One of the most outstanding irregularities of the division of the cancer cell is in the behavior of the nucleus, which will frequently divide without division of the cell, resulting in the formation of so-called giant cells that contain then two, three, or many times the normal number of chromosomes. Some of the chromosomes in the giant cells are said to dissolve and diffuse in the cytoplasm. In

the normal cell a definite number of chromosomes is formed for each species; for example, there are forty-eight in the human and forty in the mouse. In tumor cells these numbers may depart from the normal in that there may be either fewer or more. It has been suggested that the abnormal cell behavior, which may include changes in the chemistry of the cell, may mean unequal distribution of cell potencies, loss of cell dif-

*From the Grand Rapids Clinic. Read before the surgical section, 111th annual meeting of the Michigan State Medical Society, September 23, 1931.

ferentiation, freedom from normal restraints of growth, and exaggeration of growth over functional capacities.

It might be said from the outset that nothing is known of the actual cause of tumor growth. Many hypotheses have been set forth, but none is entirely adequate to explain all the phenomena presented by malignant disease, and many of them beg the question, being merely theories as to how, rather than why, the neoplastic change took place. Dr. Maude Slye, from her breeding experiments on mice, feels certain that an endogenous factor exists. She calls it cancer susceptibility. Her opinion is based on the complete study of 40,000 mice. That is, she has watched them from the time they were born until the termination of their normal span of life. All were submitted to a post-mortem examination. According to her study there is not only a general susceptibility, but a definite tissue susceptibility. For example, some mice would develop skin cancer and transmit it to their offspring, and others would develop cancer of the breast, and so on. She is convinced that the tendency to develop cancer and the capacity to resist it are unquestionably influenced by heredity. There is no doubt that resistance to the formation of a tumor is a dominant character, while susceptibility is a recessive character. This is well borne out in the incidence of human cancer in the ratio of 90 to 10. That is, 90 per cent of persons do not develop cancer, against 10 per cent of them that do. By selective breeding it is possible for Dr. Slye to breed in or breed out cancer at will.

In animals, then, it can be said with a great deal of certainty that cancer is transmitted from parent to offspring. It is the general opinion today that this same tendency obtains also in man. If, then, the cell has within itself sleeping cancer factors—in other words, if a susceptibility exists and has been handed down through the germ plasm—then a long continued irritation by any one of a variety of physical or chemical stimuli may awaken the tissues to bear fruit in that cancer may follow.

It is considered a general rule that cancer does not originate in healthy tissues. Before cancer has actually started as the result of irritation, the tissues have undergone inflammatory changes or scar formation which forms a transition between the nor-

mal tissue and tumor formation, as obtains, for instance, in syphilitic leukoplakia, tuberculosis, chronic eczema, chronic ulcers, X-ray dermatitis, and so on. There are many well known examples of tumors following irritation of one kind or another. For example, cancer of the skin of the face and lower lip may come from exposure to the actinic rays and heat. These cancers are, of course, most prevalent in outdoor workers. The lower lip is devoid of pigment to give protection against actinic rays and heat. There is also smoker's cancer resulting from mechanical irritation and the heat of the pipe stem. This incidence was more common in the clay-pipe days than now. Moreover, in the lip two types of epithelium meet—mucous membrane and skin—an arrangement that is known to predispose to the development of tumors. The edges of the nostril, the eyelids, the penis, the vulva and the margins of the anus are other examples. The great rarity of cancer of the skin in negroes has frequently been cited as an example of the protective mechanism of pigmentation. Similarly, cancer of the skin is said to be more frequent in blondes than in brunettes. Cancer of the tongue and cheek is usually associated with irritation from jagged teeth; mammary cancers from the pressure of a corset or of clothing. Mammary cancer is rare in countries in which the breasts are allowed to be exposed. It is well known clinically that carcinoma of the gall bladder rarely, if ever, occurs in the absence of gall stones. Some good examples of heat being the exciting cause of cancer are found among the natives of Kashmir, in whom cancer develops from burns resulting from the custom of carrying the Kangri, or earthenware baskets containing charcoal fires, under the clothing close to the skin of the abdomen. The same type of tumor is found on the shins of engine drivers as the result of long exposure to the heat of their fires. The Chinese men eat at the first table while the rice is hot, throwing it with some force, by means of the chopsticks, into the mouth and pharynx, and not infrequently they suffer from cancer of the pharynx and the beginning of the esophagus. The women eat at the second table when the rice is cold and they seldom have the disease.

There are a number of interesting occupational cancers. It has been learned from

experiments with tar and its distillates that they are potent factors, or exciting agents, in producing cancer in susceptible animals. This obtains also in man, as is indicated in the incidence of cancer of the skin in workers with tar or its fractions. Cancer of the scrotum in chimney sweeps has long been recognized as the result of chronic irritation by soot. Soot contains a certain amount of tar and pitch. Workers with crude oil (machinists and mechanics) may develop cancer of the skin, especially of the scrotum. It is said that about 2 per cent of all the workers in the shale industry develop cutaneous cancer. Cases of skin cancer in petroleum distilleries and refineries have been reported in several countries. Aniline dye workers are liable to develop cancer of the urinary tract, most especially at the neck of the bladder. A good example of cancer being caused by a chemical is in workers with arsenic in some form, or patients who take arsenic internally over a long period of time. They develop multiple keratoses on the palm of the hands, also on the face, which may result in squamous cell carcinoma. Personally I have seen such a case, but the patient died of cancer of the urinary bladder. Skin cancer had not developed. I cannot say definitely, of course, that in this case arsenic was responsible for the bladder cancer, but I can see how it might have been so. The location of lesions in the case of arsenic cancer is the same whether the victim has taken arsenic or has been working with arsenic. Chromium, which is quite widely used today in the industries, may be the cause of cancer formation. A few years ago the newspapers reported several cases of cancer that occurred in workers with radium-mesothorium-luminous paint used on watch dials. One could go on and list a number of other examples following chronic irritation of one kind or another, but sufficient has been said to demonstrate its importance.

VARIABILITY OR DEGREE OF MALIGNANCY

It has long been realized that tumors grow more rapidly in the young than in the old. Age is, therefore, an important consideration.

In this connection the matter of location of a tumor is interesting; for example, carcinoma of the scrotum is relatively malig-

nant, while carcinoma of the skin of the face is generally curable in a high percentage of cases. Cancer of the tongue and tonsil is rapid. Cancer of the lower lip is very slow, while that of the upper lip is relatively much more rapid. Cancer of the stomach pursues a relatively rapid course, whereas that of the large bowel grows and metastasizes very slowly. Tumors of the testes are very rapid in their growth. Carcinoma of the cervix is relatively very malignant, whereas carcinoma of the body of the uterus grows relatively slowly.

The time element in the growth and spread of tumors is dependent also upon the cellular activity. Broders, for example, distinguishes four different grades of cancer, dependent upon the degree of differentiation of the cell. Tumors containing a large proportion of undifferentiated cells with round nuclei, containing a single deeply stained nucleolus—what Broders calls a "one-eyed cell"—are placed by him in Grade IV, with a hopeless prognosis. The most highly differentiated cells are placed in Grade I. They have put a brake on themselves, so to speak, having differentiated beyond their ability to reproduce. These offer the most favorable prognosis. Grades II and III are intermediate without, of course, an arbitrary line of differentiation. Experience has demonstrated that a parallel exists to a marked degree between the histological structure and the usual clinical course.

The kind and amount of supportive stroma is also a factor in the rapidity of growth of the tumor, a medullary tumor being very much more rapid in growth than a scirrhous tumor, which has a large amount of highly resistant supportive tissue.

METASTASES AND ROUTES OF SPREAD

The formation of secondary tumors is a cardinal property of malignant new growths. Innocent tumors grow by expansion much as a balloon grows when it is filled with air. Malignant tumors spread by infiltration, by transplantation and by embolism. The behavior of the infiltrating process is well understood. The tumor cells extend in any direction and without regard to the surrounding structures, as is well exemplified in the case of cancer of the cervix, which may extend and eat its way into

the rectum and into the bladder. Spread by transplantation is not a common method, but when it does take place it occurs most often in the abdominal cavity, as in the case of cancer of the stomach. The cancer cells are shaved off by peristalsis when the serosa is reached, then through gravity they tend to migrate down. The freed cells may then attach themselves anywhere to the serosa surface and get a foothold for secondary growth. By virtue of gravity these secondaries lodge most frequently in the pelvis. In women they not infrequently attach themselves to the ovaries. The practical clinical application of this behavior is the digital rectal examination of cases in suspected or indefinite cancer of the stomach. The finding of a bunch or mass in the cul-de-sac may be the key to a diagnosis. Another example of transplantation of cancer cells, one well recognized by surgeons, is that, if a tumor is cut during the course of its removal, there is then danger of implantations in the immediately surrounding tissues. While the method of spread by extension and transplantation is of considerable importance from a clinical point of view, yet the spread by embolism is of considerably greater importance. Generally speaking, carcinomas spread along the lymphatics, and sarcomas through the blood. The fact is, however, that not infrequently carcinomas travel through the blood stream, whereas few sarcomas travel along the lymphatics. Lymphosarcomas constitute an outstanding exception, the reason being that the origin of the tumor is within the lymphatic system. The mechanics of the circulation will explain the majority of the metastases. If, for instance, the primary growth is situated in the intestinal tract it is easy to comprehend that the tumor cells carried by the portal blood should lodge and grow in the liver. Likewise cells carried by the general circulation would naturally first be caught and filtered out in the capillaries of the lungs. Many cancer cells are little, if any, larger than blood cells, and it is, therefore, possible for them to pass through the capillaries of the lungs to be sent out everywhere throughout the body. If this occurs it does not mean necessarily that the cells that have not been caught out in the filter will produce secondary growths in the tissues in which they may lodge, as there is a definite organ and tissue resistance on the one hand, and on the

other a predilection for secondary growth. No doubt large numbers of tumor cells must lodge in the skeletal muscles, the heart muscle, the pancreas, the spleen and the uterus, all with a rich blood supply, yet secondaries are seldom found in these organs. This is an interesting tumor phenomenon illustrating tissue resistance to invasion of tumor cells. Contrariwise in carcinoma of the prostate, thyroid or breast, also the bronchus carcinomas and hypernephromas, the metastases show an extraordinary preference for the osseous system, so that the bones in the skeleton may show numerous and extensive deposits, while the other organs may remain free.

There are other interesting examples for which there is no intelligent explanation. Squamous cell carcinomas involve the local lymphatic glands, but rarely the distant viscera. Strangely enough, in the case of a hypernephroma there may be a single osseous metastasis only. I saw such a case in which the scapula was, as far as could be determined, the only bone so affected. A neuro-blastoma beginning in the adrenals may give rise to multiple secondary growths, all confined to the liver. The skin seems to be a favorite site for secondaries in a melanoma, also in a lymphosarcoma, and in carcinoma of the rectum. The heart and spleen were listed with those organs that seldom harbored secondaries. They are also seldom the seat of primary tumors.

OTHER INTERESTING TUMOR PHENOMENA

The great majority of cancers of the gastro-intestinal tract are at the beginning or at the end—in other words, in the stomach and rectum. The small intestine is skipped—cancer of the small intestine is a very rare occurrence.

Carcinoma of the breast with few cells and abundant stroma may appear in the glands as a highly cellular growth with scanty stroma.

Secondary growths may far outstrip the primary tumor. I recall having witnessed an autopsy in which practically all the organs of the body, including the brain and heart muscle and adrenals, were practically filled with metastases, and only after a long search was the primary found. It was a small growth on the edge of the tongue. The very extensive metastasization was unusual from the standpoint of the type of

tumor, since a squamous epithelium rarely produces bulky metastases, as already mentioned.

Organs liable to be the seat of primary tumors, such as the breast, pancreas, uterus, stomach and intestines, rarely harbor secondaries, whereas those in which secondary growths are prominent, as the lungs and liver, primary growths are rare.

It is highly desirable that every clinician

be familiar with the different types of tumors, the gross diagnosis, and their behavior with respect to location, their cellular activity, their usual routes of spread, and so on. One who is familiar with tumors and their behavior is in a better position to render a more intelligent diagnosis and prognosis. Such knowledge should also enable him to render a more efficient treatment.

THE BACTERIOPHAGE*

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ANN ARBOR, MICHIGAN

It is a commonplace in the experience of all to find that most discoveries have their roots deep in the past. The phenomenon of cell lysis by the bacteriophage, which has been so intensively studied during the past fifteen years, is no exception to this generalization.

In 1896, a paper appeared in the *Annales de l'Institut Pasteur* in which the author, Hankin, drew attention to the notable bactericidal properties of some of the river waters of India. The Jumma, just below Agra, contained over 100,000 organisms per cubic centimeter, but five kilometers further down the river there were present, in the same quantity of water, only 90,100 organisms. On extended investigation it was found that the water, when filtered through an infusorial earth candle, exerted a marked lethal action upon the cholera vibrio in a test tube, an effect which was abolished by boiling. Hankin attributed this destructive action to a volatile substance which he failed to isolate but his observation remained unexplained and was forgotten until brought into light again by d'Herelle.

The fundamental observation which led to the discovery of the bacteriophage was made by d'Herelle in 1917. He noted, while working at the Pasteur Institute, in a sterile filtrate from the feces of a patient convalescent from Shiga dysentery, something which inhibited the development of the causative bacilli and under certain conditions destroyed them. By way of example, if a few drops of such a fecal filtrate were introduced into a young broth culture of *B. dysenteriae* in which a clouding due to bacillary growth was just beginning to appear and the mixture further incubated, the usual and progressive

multiplication did not occur, but after twelve to twenty-four hours all trace of bacillary growth had disappeared. An unique feature about this phenomenon and one distinctly outside the realm of previous experience was that the lysis was found to be indefinitely transmissible in series. At the end of an experiment the principle could be separated off by filtration and the resulting sterile filtrate used to start the lysis of a second bacterial culture. The bacilli were no longer detectable in cultures subjected to the influence of this agent and d'Herelle came to the conclusion that the substance responsible for this lysis of growing bacteria was a living filterable micro-organism which he called the *Bacteriophagum intestinale*. An active filtrate of a lysed culture of dysentery bacilli is spoken of as a Shiga bacteriophage or the shorter form "phage" is used by some authors. However, a number of writers not wishing to be involved in expressing a view on the ultimate nature of the entity prefer the term "lytic principle."

Great fleas have little fleas
Upon their backs to bite 'em.
And little fleas have lesser fleas,
And so ad infinitum!

The activity of a bacteriophage obtained in this manner could also be demonstrated in cultures of bacteria on the surface of

*From Hygienic Laboratory, University of Michigan. An address given before the Wayne County Medical Society, May 10, 1932.

†Dr. Soule obtained the degree of Sc.D. in Bacteriology from the University of Michigan in 1924. He has been professor of Bacteriology in the University of Michigan Medical School since 1931.

solid mediums. When a few drops of a young broth culture of the Shiga bacilli were spread on an agar plate and allowed to dry, if the inoculated area was streaked with a loopful of a filtrate exhibiting lytic activity and incubated, the plate showed a very striking and characteristic appearance. The uniform layer of normal growth of the bacilli was pitted with discrete sharply eaten out circular areas where no growth was evident. These "phages" d'Herelle claims to be colonies of the bacteriophage.

The name of Twort is frequently joined with that of d'Herelle as co-discoverer of the phenomenon. In 1915, Twort, working with vaccinia, described some experiments wherein he had observed that certain colonies of cocci underwent a glassy degeneration. Microscopical examination of this material showed only granular debris without proper coccal forms. He further found similar degenerative changes could be induced in healthy colonies by inoculation with a fragment from one of the diseased colonies. The infective material was capable of passing unglazed porcelain filters and of transmission through an indefinite number of generations. From a broad point of view these data appear practically identical with those of d'Herelle although obtained under different circumstances and with a different type of organism.

There should also be included under the caption of early observations the "Flatterformen" colonies of Gildemeister (1917). His work was devoted entirely to colony morphology, but photographs show that he was dealing with cultures infected with the bacteriophage. d'Herelle insists that the bacteriophage was not concerned with the phenomena recorded by these two workers. To the outside observer of a rather acutely waged dispute there is no distraction from the brilliant experimenting of d'Herelle by a suggestive priority on the part of others.

THE ORIGIN AND METHOD OF OBTAINING THE PHAGE

There has been a strong tendency to regard the bacteriophage as intimately associated with the alimentary tract either in a diseased or healthy condition since the first isolation of the agent by d'Herelle was from human fecal material. With the passage of time the bacteriophage has been obtained from a variety of sources, some of which

would preclude the possibility of intestinal contamination and occasionally it has appeared spontaneously in ordinary cultures in the laboratory.

The isolation of the principle may usually be effected by emulsifying several specimens of human or fowl feces in broth* and incubating for several hours; the larger particles are removed with filter paper and the filtrate is subsequently passed through an unglazed porcelain or infusorial earth filter. Composite samples of city sewage are a most convenient source from which to develop a bacteriophage. To detect the lytic agent, a given surface culture of bacteria is inoculated with the filtrate and after incubation an examination is made for the presence of a "plage" or bacteriophage colony.

When a bacteriophage has been obtained, its action on a given organism may be enhanced. This is done by repeated feeding and filtering. As ordinarily carried out, the procedure consists of adding to the active filtrate a few drops of a young broth culture of the germ and incubating. Usually after a preliminary increase in the turbidity, a result of the multiplication of the organisms, the broth becomes clear. The vast majority of bacteria have been dissolved. If such a lysed culture is filtered and feeding with young bacteria again resorted to, a filtrate will ultimately be obtained which will, when diluted a million fold, induce lysis in a young broth culture. Such an active filtrate free from bacteria is ordinarily understood when reference is made to a bacteriophage. The increase in activity of the bacteriophage can be gauged by the number of bare "plages" formed in cultures made on agar. A phage has maximal virulence, according to d'Herelle's definition, when a single bacteriophage corpuscle added to a broth tube containing 250 million organisms per cubic centimeter gives complete lysis when held at 32° C.

Naturally it would be expected that a lytic agent developed under these conditions would be active mainly in connection with the colon-typhoid-dysentery group and it is with relation to such organisms that the phenomena have been most intensively studied. Nevertheless, the activity is by no

*If the material is to be used clinically, a synthetic medium of known composition containing asparagin as a source of nitrogen is to be preferred.

means limited to this group but has been found to embrace the whole range of intestinal organisms, the hog cholera and the hemorrhagic septicemia group, the staphylococci, etc.

GENERAL CHARACTERISTICS

Although a bacteriophage which has been obtained from the stool, in a case of intestinal disease, is usually active for the causal organism only, this is not invariably the case and in some instances the principle is polyvalent in that its action may be exerted upon a number of bacterial species, usually, however, not to the same extent upon each. Thus a given bacteriophage may have a powerful dissolving action upon the Shiga bacillus, a moderate one on *B. typhosus* and a slight action upon *B. coli*. However, a phage can frequently be adapted to lyse an organism on which it has initially no demonstrable effect. The adaptation is usually accomplished by the method of passage. A little of the original phage is added to a young broth culture and incubated. When lysis appears to be complete, the culture is filtered and a portion of the filtrate is added in its turn to a fresh broth culture. This process of successive filtrations and lysis of fresh normal bacteria may be repeated as often as is necessary. Each culture must be sterilized by filtration, never by heating, and filtration should take place as soon as clearing is complete. There seems to be no limit to the possible range of organisms for which a phage may develop virulence and attention should be directed to the fact that active preparations, when sealed in glass ampoules and stored at room temperature, will retain their lytic power practically undiminished for periods of at least fifteen years. It was believed by the early workers that a lytic principle obtained from the intestinal tract could be adapted to only the fecal organisms, but the experiments of d'Herelle lead him to believe that there are no such bounds and he reports that he was successful in adapting a staphylococcal phage to lyse *B. dysenteriae*.

The phenomenon of lysis is exerted most strikingly on young actively multiplying cultures. This reaction takes place over a fairly wide range of hydrogen ion concentration, but is most active on the alkaline side of neutrality. No bacteriophagic lysis can be demonstrated on dead bacilli but the devitalized cells will adsorb the lytic agent.

When bacteriophage activity is very marked a given population of bacteria may be completely destroyed, but it more commonly happens that, although destruction appears complete, some of the organisms survive, and, if incubation be continued, growth begins to reappear again after an interval of a few days. Subcultures of such surviving organisms give growths of the original bacterium upon which the lysis was carried out, but these secondary cultures often show marked differences from the typical parent strain, the most outstanding of which is a resistance to bacteriophagy. Although all the survivors do not exhibit this attribute, phage-resistance is commonly associated with the secondary growth.

The bacteriophage is possessed of specific antigenic properties and the injection of a suspension of the material into animals results in the production of a specific antiserum, an anti-phage anti-body. However, since such a suspension will contain lysed bacteria, ordinary bacterial antibodies, such as agglutinins, precipitins, etc., are developed at the same time.

In comparison with most unicellular organisms bacteriophage has relatively high powers of resistance to various agencies although all agents capable of exerting a destructive action on living matter will destroy the activity of the phage when applied in sufficient intensity. Different samples show variation in resistance to heat but complete inactivation takes place between 70 and 75° C. The susceptibility of phage to ultra-violet rays is of the same order as that of bacteria. Most antiseptics inhibit phage activity at a concentration intermediate between that of the vegetative forms of bacteria and the spores of *B. subtilis*.

The lytic particles carry a negative charge, hence they are not readily adsorbed by the ordinary bacterial filter. However, the principle may be removed by adsorption in the presence of the hydrophil colloids such as gum arabic. It is also of interest to note that when sensitive bacteria are incubated with phage in a medium containing ten to fifteen parts of gum arabic or gelatin no visible lysis of the cells occurs.

THE NATURE OF THE BACTERIOPHAGE AND THE MECHANISM OF ITS ACTION

Regarding the true nature of the bacteriophage there has been, and still is, much con-

trovery. Various theories have been put forward but these essentially center around two, namely: (a) d'Herelle considers the active agent to be a living filterable micro-organism which parasitizes the bacteria and causes their destruction by lysis, (b) Bordet believes the phage to be a non-living ferment supplied by the bacteria themselves, the bacteria become modified in some way so that an inherent tendency to autolytic processes is exaggerated. Whatever may be the final outcome regarding the nature of the lytic principle itself there is general agreement that the lytic agent is a small particulate body. Since an active phage shows no visible particles when examined with the ultramicroscope various attempts have been made to estimate the size of the individual corpuscles with rather unsatisfactory results. The best data indicate that the dimensions of the lytic unit lie between 10 and 100 $\mu\mu$.

When a dilute bacteriophage is first added to a culture of bacteria the initial action of the agent on the bacterial population may be to increase its rate of growth. This stimulating effect which precedes bacteriolysis possibly indicates an early alteration in the metabolism of the cell, which finds its expression at this time in multiplication. However, when a specific phage is added to the bacterial culture in excess, the first result of contact between bacteriophage and bacterium is the adsorption or absorption of the bacteriophage by the bacterium. The latter is so affected by contact with the phage that within a few minutes and perhaps seconds it is rendered incapable of propagation, apparently the bacteria are killed immediately and lysis occurs 20 to 30 minutes later. Viewed under the microscope the involved bacteria are seen in certain instances to assume a globular shape before they disintegrate and disappear. With the disintegration of the cells d'Herelle assumes the multiplication of the phage to occur, but it has been demonstrated that an increase in the concentration of lytic principle in the medium will take place without concomitant cell destruction although this is not ordinarily the case.

The fact has been established that phage particles can multiply only in the presence of bacteria that are actively growing, but no consistent satisfactory explanation is available as to the exact mechanism of

phage exaltation. In addition, several investigators have noted that the bacteriophage does not lyse in saline nor does it proliferate under these conditions but both do occur if some broth is added.

When a bacteriophage has been adapted to one strain of a given species, characteristic differences are observed when other strains of the same species are subjected to the action of the lytic agent. The phage may be polyvalent, that is, exhibit lytic power for many strains of the same germ, or lysis may be limited only to the strain for which the phage is adapted. In brief, one cannot predict with certainty whether a selected strain will be susceptible to lysis by a phage which has been adapted to a member of the species. Ordinarily it is necessary to adapt the phage to the strain selected and even under such conditions the ultimate virulence of the phage cannot be assured, as phage-resistant strains are very common.

THE BACTERIOPHAGE IN THE INFECTIONS

d'Herelle early recognized that an active specific bacteriophage possessed all of the attributes of the theoretically ideal therapeutic agent. In many of his writings the relation of the lytic principle to disease has been a conspicuous feature and he makes the widest claims for this agent as a natural therapeutic substance. He sees in the course of such diseases as typhoid a struggle for supremacy between lytic principle and invading germ; in the natural cure of these diseases the destruction of bacteria by this agency; in their chronicity, the period occupied by the phage in reaching a degree of virulence sufficient to effect this. He further claims by the use of the principle to have treated successfully cases of dysentery, typhoid, plague and other diseases and to have controlled and stamped out epidemics of cholera, avian typhoid and barbone. "The beginning of an epidemic is marked by the diffusion of the causal bacteria, its end by the diffusion of the bacteriophage virulent for this bacteria."

The accuracy of these statements has been experimentally investigated by many, with the result that some workers have supported and advanced the claims of d'Herelle, while others have observed an increase in susceptibility as a result of treatments with the lytic agent. The clinical reports of the

therapeutic use of appropriate phages are mostly uncritical and poorly controlled, resulting in an unstinted enthusiasm to use the phage whenever the opportunity presents itself, interpreting all improvements as directly due to the lytic agent and all failures as dissociated from the agent, or marked condemnation because of unconvincing results. That there is a growing interest in the bacteriophage as a therapeutic agent there can be no doubt, but one finds in the literature such glowing reports of hopeless conditions being successfully treated that he becomes skeptical, a logical reaction, since this sort of hyperenthusiasm is usually associated with the propaganda of quackery. Nevertheless, it would be very unfortunate to have the lytic principle prematurely rejected by all because of conflicting experimental reports and commercial exploitation.

It is well to have uppermost in mind the fact that information gained from a study of reactions in the test tube cannot be translated into the chain of events occurring in the body when the same agencies are at work. d'Herelle was only within the realm of true human experience to dream, as he watched his test tubes, that this agent which when diluted a million fold would lyse countless numbers of germs and increase in potency at the same time, would also dissolve the agents of disease when administered to the infected host. That fifteen years of intensive investigation by thousands of workers has not seen the unequivocal fulfillment of the prediction by d'Herelle does not signify that the bacteriophage is without value in clinical medicine. The weight of evidence is against such a position, however; the reported results have been contradictory and disappointing.

The logical procedure in attempting an evaluation of the various reports would be to scrutinize the several materials employed under the appellation "bacteriophage." It is apparent at once that all sorts of unrelated stuff have been used and the results have been compared. With the exception of certain data appearing from various European clinics, where only within recent years standard phage products prepared under the general supervision of d'Herelle have been used in large quantities, the majority of reports, but by no means all, deal with small individual batches. These have been

prepared with no experienced supervision or with materials developed by laboratory workers anxious to gather data on the clinical value of materials previously studied *in vitro*.

The preparation of the bacteriophage has necessitated the use of bacterial filters, of which there are many varieties and with which the majority of laboratory workers until quite recently have been unacquainted. The object of filtration has been in each case to obtain the lysed culture in a sterile condition, a feat which d'Herelle early recognized as impossible by this technic. To be considered of value for clinical use the only requirement placed on a phage has been that it demonstrate lytic action against some organism in the test tube. Little consideration has been given to its origin, the type of medium with which it is identified or whether the phage is active against the causal agent of the diseases, a quality which may ultimately prove to be unessential. It is apparent then that the so-called bacteriophage is a very complex mixture, one component of which is the lytic principle itself, but the possibility that the other elements present, the nature of which depends on the phage used, may also exhibit biological activity, has rarely been considered. The theory upon which therapy has been instigated has usually been the spectacular nature of the reaction in the test tube.

The claim is made by d'Herelle that by injection of the phage two types of immunity are established: first, an immediate resistance due to the presence in the body of the lytic agent (this lasts only as long as this substance can be detected, a matter of some six hours, and is, therefore, fleeting); and, secondly, a more slowly developing solid type of immunity, which is simply a result of the injection of the products of the killed bacteria, the regular type of acquired antibacterial immunity. It is with respect to the first type of immunity that most clinical experiments have been planned. The general procedure has been to isolate the infecting organism, to test a young broth culture with a known bacteriophage and thus determine its susceptibility to lysis and in the absence of lysis to provide by the method of adaptation a phage of maximal activity against the invading organism. If a satisfactory product, one causing lysis in

high dilutions against the germ in question, is obtained, treatment is instigated. Whether the agent is injected, ingested or applied locally, the object in mind is to duplicate in vivo the spectacular in vitro results, and to date there has been practically no evidence to demonstrate that in vivo lysis does occur even under the most favorable conditions. As a matter of fact, the reports are practically unanimous in their failure to observe early immunity which might be attributed to in vivo lysis. These unsuspected results find a ready explanation in a recent communication wherein the fact is reported that purulent exudates, defibrinated blood and blood serum in addition to bile have a marked inhibitory effect in vitro on the lytic action, but do not destroy it. With purulent exudates, for example, this inhibition is demonstrable even in dilutions as high as 1:1,000. Others have indicated that a concentration of bacteriophage sufficient to cause actual lysis in blood or tissue is probably never reached in ordinary clinical experience.

Various attempts have been made to separate the lytic corpuscles from the other components of the mediums in which they were produced and thus obtain a preparation which could be utilized to demonstrate the presence of attributes other than lysis. To date insufficient quantities of these highly purified preparations have been available for clinical tests, but there is ample in vitro evidence to indicate that they possess the power of stimulating phagocytosis and bacterial dissociation.

Bacteriophage therapy must be interpreted, then, apart from the specific phage content, although such a procedure would unquestionably amount to a discarding of its use by many. The real active agent is considered to be the products of bacterial autolysis and the lytic filtrates in reality vaccines, the injection of which stimulates the appearance of the usual bacterial antibodies much more quickly than the ordinary suspensions of dead organisms. Nevertheless, in selecting a phage a potent lytic power should be provided. In the actual employment of the lytic principle in the treatment of specific infections it quite naturally follows that a subcutaneous injection of the agent should be insisted upon to stimulate earned immunity in addition to a local application in an attempt to get lytic

action. The same care should be exhibited in selecting the agent even though lysis in vivo is presumably of minor importance. The preparation used should be active against the causal organism in the case proposed for treatment and should be freshly prepared. An intradermal test using 0.05 c.c. of the phage, waiting twenty minutes to determine whether the patient is sensitive to the proteins of the preparation, should always precede treatment.

It is in staphylococcus infections that there has been general agreement that the lytic principle has value, more especially in furunculosis. However, one notes that such a condition is usually self limited with a distinct tendency to self healing. Local application of the phage freshly applied hourly, plus 2 c.c. subcutaneously at a distance, or $\frac{1}{4}$ c.c. amounts by multiple puncture surrounding the isolated lesion, have been successful. Preparations heated to 75° C. to remove the lytic action when administered in this way have also given favorable results. As is to be expected, one frequently observes a severe local reaction, redness, pain and edema, or even a generalized "protein" shock, chills, fever, vomiting, insomnia, etc., following the parenteral introduction of lytic agents.

In local streptococcus infections the value of the lytic principle is still in doubt. It is clear that in most cases a bacteriophage in the d'Herelle sense has not been available, although several investigators have reported favorable outcomes following the use of a staphylococcus-phage in staphylococcus and streptococcus bacteremia. The lytic agent is administered intravenously plus local applications if lesions exist. In bacteremia, the most recent procedure (MacNeal) is to begin immediately with intravenous injections in divided doses at intervals of about thirty minutes until definite evidence of shock is obtained, ordinarily a chill with sharp rise in temperature, followed by a fall to nearly normal in twelve hours. At the same time the phage is applied to the open wound and injected into the tissues about the local lesion, if any such is in evidence. Intravenous injections of smaller amounts are continued daily for a long period after the initial shock.

One of my colleagues at the University Hospital has been using bacteriophagy under well controlled conditions in *B. coli* in-

fections of the urinary passages for the past several years and believes it to be an effective method of treatment. He is very cautious to add, however, that in his experience no immunity to subsequent attacks is conferred by bacteriophage sterilization of the urinary tract and in every instance the lytic principle must be active against the invading organism.

CONCLUSIONS

A careful perusal of the rapidly accumu-

lating literature on the clinical use of the bacteriophage can only impress one with the fact that no definite conclusions can be drawn. While the selection of the lytic agent is probably justifiable in instances where other measures are not usable, and should be employed, the procedure should be considered experimental only, hence carefully controlled. There are no data to indicate that bacteriophagy is on a sufficiently sound basis to warrant its unrestrained exploitation or promiscuous use.

TREATMENT OF DIABETIC COMA*

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Few emergencies in the practice of medicine or surgery require more immediate attention than does diabetic coma.

In angina pectoris or in acute appendicitis, the patient may survive without any treatment, but in diabetic coma only one in thousands spontaneously recovers. In our clinic we have never seen a severe case of coma recover without the most persistent and heroic treatment.

An energetic, conscientious and continuous vigil by one fully cognizant of the gravity of the situation, and one well qualified to direct proper therapeutics, constitutes the first and last requisite for successfully combating this preventable misfortune. The element of time is just as important as it is in intestinal obstruction, and the prognosis is in inverse proportion as to the period occurring between the initial onset and the institution of treatment.

Up to the present the pathogenesis of diabetic coma has not been satisfactorily explained. These cases exhibit an acute morbidity and dysfunction of all the body tissues, in which the totality of the life processes is seriously jeopardized. There might also be included in this intricacy a metabolic complex in which the interrelation between the constructive and destructive phenomena of the human machine is interrupted.

No tissue is exempt in these crises, not even the nerve structures. The coma, shock, vasomotor paralysis, cardiovascular-renal syndrome, etc., depicted by unconsciousness, low blood pressure, weak, rapid, thready pulse, hypothermia, dehydration,

oliguria or anuria, panting breath, soft eyeball, dilation of the stomach with bleeding into the gastrointestinal tract, and at times hemorrhage in the brain and kidneys, nausea and vomiting, leukocytosis, low alkali reserve, hyperglycemia, acetonemia, glycosuria, acetonuria, etc., are in and of themselves *prima facie* proof that the patient is moribund. It is a fight for life, and no time should be lost in institution of immediate treatment.

We agree with Drs. Lawrence and Atchley that many of these desperate cases may be saved by injection of large quantities of fluid and insulin, watching closely, however, for any edema that may occur, or for any cardiac embarrassment. We are of the opinion that more of these serious cases are lost by not giving enough fluid and insulin, than is generally believed. However, one certainly would not treat a man seventy years of age the same as he would an infant or a patient twenty years old whose cardiovascular system is sound. Severe hypoglycemia should be avoided in cases with

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arteriosclerosis associated with myocardial degeneration.

According to Ernstene and Altschule, there is an increased pulse rate and pulse pressure during hypoglycemia. The systolic rose and the diastolic fell. The minute volume output of the heart is increased during hypoglycemia. They therefore conclude that insulin hypoglycemia is associated with an increased amount of cardiac work, which furnishes an explanation of the clinical manifestations of myocardial failure and attacks of angina pectoris in subjects with arteriosclerosis and diminished myocardial reserve. "Insulin angina," or, as Joslin suggests, "hypoglycemia angina," occurring after insulin overdosage or during the third or fourth hour observation of a glucose tolerance estimation ("Ingestion of sugar stimulates the mechanism of its utilization"—Rabinowitch), has on a few occasions caused us considerable anxiety. A depletion of the glycogen supply in the myocardium in an already damaged cardiovascular system may prove disastrous. Therefore, we are convinced through experience that hypoglycemia is not desirable in certain cardiovascular cases and that the fluid and insulin intake should be guarded. Like a desiccated, neglected house-plant, when water is applied osmosis is so rapid that you can actually visualize the filling up of the dry plant structures, manifested by the perceptible movement of the leaves and stalk of the plant. So, in the human dehydrated body, one can feel and see the veins filling out, the shrunken tissues imbibing and reviving, and the feeble compressible pulse re-establishing its fullness.

No case is more spectacular, and nothing gives a man quite the thrill or genuine enjoyment, than to see life returning to these dying patients. We regret to say that even today, with all our knowledge of diabetic coma, and with all of our splendid equipment for treating the same, these dangerous cases, especially when intervention is started late, pass from us, and it is only when the most drastic, intrepid and unswerving treatment is instituted that some of these lives are saved.

Admitting that fluids should be given slowly and cautiously, and that the administration of insulin should be well understood, how many cases have been actually lost from cardiac dilatation or pulmonary

edema, from excessive use of normal saline solution, or how many fatalities have been encountered from insulin overdosage, in comparison with those lost by dehydration and insufficient insulin? Diabetic coma, if attacked in its initial stage, usually vanishes before the "Four Horsemen"—Insulin, Salt, Water and Work.

All agree that at the present time we have no exact means of computing the required initial dose of insulin, or the precise amount of fluid to be given. Every case is a law unto itself. The minimum and maximum amount of insulin required for the first 24 hours may vary from 50 units to 1,000 or more. Ten to one hundred units may be the ideal initial dose, given separately or conjointly with 250 to 1,000 c.c. of normal saline or Ringer's solution. The main thing to keep in mind is that the coma must be controlled as quickly as possible, regardless of the amount of insulin and fluid used. The general appearance and age of the patient, the depth and time that the coma has existed, the extent of dehydration, the circulatory and cardiovascular status, and the profundity of shock, etc., together with laboratory findings, will determine relatively the amount of insulin and fluid to be used. In institutional work we have little fear from initial overdosage. These cases absorb water like the sands of the desert, and insulin does not appear to have its usual potency.

Formerly many of our cases have been given entirely too small amount of both insulin and water. This is conceded to have been the mistake by many other men in this field. The fear instilled in our minds, during the pioneer days of insulin, of the great danger of over-dosage, is possibly responsible for the error of under-dosage today. To belittle the possible lethality of insulin overdosage, is not our purpose; but we do want to stress the necessity of sufficient insulin and fluid to control the case.

Before entering into the symptomatology and therapeutics of diabetic coma, it is interesting to review a few contradictory statements regarding the treatment of these cases, which will perhaps explain, at least partially, the hesitancy the general practitioner has in attempting to treat diabetic coma.

A says: "Under no circumstances should

opiates or sedatives be used in the treatment of diabetic coma."

B says: "We frequently use one-fourth grain morphine or some other sedative in our diabetic coma cases."

A: "Under no circumstances should strong physics be given in diabetic coma."

B: "After washing out the stomach, leave two ounces of castor oil, or it may be necessary to use croton oil in some cases."

A: "Always give routinely adrenalin or ephedrin hypodermatically in cases with low blood pressure especially."

B: "Adrenalin is antagonistic and is contraindicated."

A: "We believe that the alkalies (sodium bicarbonates) are decidedly beneficial. Its use appears to shorten the period of acidosis."

B: "Sodium bicarbonate should never be used. It can do no good and can do harm."

A: "All fluids should be given intravenously in the treatment of diabetic coma."

B: "The intravenous route should be used only when all other methods fail."

Many other contradictory statements might be added, but are nonapropos at this time.

That certain types of diabetics are more prone to coma than others, is splendidly epitomized in the following statements by Dr. Joslin: "Coma attacks the young diabetic and the diabetic who is in the first few years of the disease." "Coma is exceptional after the first ten years of the disease." "The fat diabetic can get coma, but it takes gross mismanagement to produce it." In the opinion of Dr. Priscilla White, however, "The overweight diabetic child . . . is more frequently attacked by coma." "It is still the poorer class of patients in whom the incidence of coma is highest." "The adolescent is coma's shining mark."

PREMONITORY SIGNS

There is no distinctive sign of diabetic coma, but whenever a diabetic begins to act, look, talk, or feel peculiar, in any way out of the ordinary, always be suspicious that he has transgressed some diabetic law and should be watched very closely for oncoming coma.

Patients frequently complain of a peculiar, unpleasant taste in the mouth, their appetite is not as good as usual (this is a

splendid premonitory symptom), are nauseated and vomit, have vague abdominal discomfort or epigastric distress. Do not overlook an acute abdominal trouble in these cases, as it is possible that there may be pathology present that is precipitating the coma. At times a diagnosis is extremely difficult, especially if the patient has a fever. Recently we operated upon three cases which were in the pre-coma stage, and found in all acute appendicitis, two gangrenous and one pus appendix. These cases had a slight rise of temperature, a leukocytosis, nausea and vomiting, general abdominal discomfort; all were pre-comatose. In surgical conference the diagnosis was concluded on two points: first, rigidity in the lower right quadrant; second, pain on pressure over McBurney's point. All made an uneventful recovery. We are convinced that in these three cases the appendicitis was the etiologic factor in inducing or expediting the coma. The more quickly the infection is removed, the more easily the coma is controlled. Our policy is to reduce the coma as quickly as possible, then repeat the physical examination. Parenthetically, diabetics are not as poor surgical risks as is generally believed, perhaps very little more than a patient would be of similar age and with similar degenerative changes in the cardiovascular-renal system, providing these cases receive proper care before, during and after surgery.

These patients frequently complain of weakness and pain in legs, want to be left alone in order that they may recuperate, they are listless, not particularly interested in anybody or anything, procrastinate, want to defer everything, are tired all the time—simply cannot get rested. Some have a feeling or fear of impending calamity; some are very nervous and at times even hysterical; others are very drowsy, sleepy and apathetic. Frequently there is a headache, backache, and some complain of chest pain. Râles are frequently found on physical examination of the chest. At times there is a vertigo or tinnitus-aurium. Vision is sometimes capricious—good today and poor tomorrow. This is generally considered to be due to the laws of osmosis and concentration. The higher the concentration of sugar in the media, the greater the osmosis into the lenses, thereby increasing their volume with resultant myopia. With lower blood

DIFFERENTIAL DIAGNOSIS OF DIABETIC COMA AND HYPOGLYCEMIC COMA

CAUSES

Diabetic Coma

1. Indiscretion in diet, as—overeating or starvation. In starvation "the ketogenic bodies resulting from the catabolism of body protein and fat are in excess of available CHO." (Joslin)
2. Omission of insulin.
3. Infections.
4. Experimentation, carelessness, ignorance and foolishness.
5. The non-trained and improperly educated diabetic patient.
6. Vomiting and diarrhea.
7. Parturition.
8. Ether or chloroform anesthesia.
9. Physical or mental shock.
10. "Any condition that interferes with glycogen metabolism may induce coma." (Joslin)

Hypoglycemic Coma

1. Overdosage of insulin.
2. Omitting meals.
3. Vomiting or diarrhea with failure of food absorption.
4. Delay in serving meals.
5. Overdosage of insulin from treating diabetic coma.
6. Increase in tolerance due to properly balanced diet, removal of infections, etc.
7. Miscalculated diet, errors in substitution, etc.
8. Insulin injections too frequently repeated.
9. Excessive exercise, etc.

DIFFERENTIAL SIGNS AND SYMPTOMS

1. Patient acts, looks, talks or feels peculiar—*progressively*.
2. Loss of appetite *progressively*.
3. Nausea and vomiting as a rule.
4. Kussmaul breathing.
5. Skin dry.
6. Coma *gradual*.
7. Abdominal distress (practically always present).
8. No convulsions.
9. See Premonitory Symptoms.

1. Patient acts, looks, talks, or feels peculiar—*suddenly*.
2. Hunger—*suddenly*.
3. Nausea and vomiting rare.
4. Breathing normal or shallow.
5. Skin moist.
6. Coma *sudden*.
7. If abdominal distress is present, it is not outstanding.
8. Convulsions may occur.
9. Ravid summarizes the symptoms of Hypoglycemia. as follows: "Sensation of hunger, languor, weakness, pallor or flushing of face, perspiration, glazed or mask-like facies, numbness, tingling, or other paresthesias in limbs or lips, diplopia, nystagmus, tendency of pupils to dilate, tinnitus aurium, dysarthria, dysphagia, motor weakness, hemiparesis, incoördination, changes in reflexes, twitchings, convulsions, confusion, emotional instability, delusions, obsessions, hallucinations, maniacal outburst, aphasia, total or partial amnesia of reaction in constant change in pulse rate, heart action, blood pressure and even temperature."

LABORATORY FINDINGS

URINE

1. Sugar present.
2. Acetone—plus.
3. Diacetic acid—plus.
4. Albumin (small amount). Blood cells and casts may be present.

1. Sugar absent in second catheterized specimen.
2. Acetone—zero or trace.
3. Diacetic acid absent.
4. Albumin (traces to none).

BLOOD

1. High blood sugar.
2. Plasma CO₂ combining power below 20 volumes per cent.
3. Non-protein nitrogen above normal.

1. Low blood sugar.
2. Plasma CO₂ normal.
3. Non-protein nitrogen normal.

THERAPEUTIC TEST

Rapid improvement with administration of insulin.
Time required—a few hours.

Rapid improvement with administration of glucose (5 to 10 per cent glucose may be given intravenously, subcutaneously or by rectum). Time required—a few minutes. In exceptional cases some hours may be required.

sugar concentration, osmosis is from the lenses, thereby decreasing their antero-postero diameter with resultant hyperopia. Recently we had a case in our clinic who said that he had seven pairs of glasses. Every morning upon arising he would try on each pair, and the one that gave him the best vision he would wear for that day.

Coma may be ushered in very insidiously, covering periods of days or even weeks, be-

fore any marked symptoms are presented, or it may occur very suddenly and abruptly, with few or no premonitory signs. It is well to remember that the mild beginning case is in no way exempt from the most fulminating type, and it is encouraging to know that the old diabetic seems to establish a certain immunity against coma. Any illness whatever in a diabetic has coma potentialities.

A diagnosis may be very difficult in those cases in which we are unable to secure a proper history. Nephritis, cerebral hemorrhage, meningitis, fracture of the skull, insulin coma, etc., should be thought of. The accompanying table is a differential diagnosis between diabetic coma and hypoglycemic coma.

SYMPTOMATOLOGY AND CLINICAL MANIFESTATIONS OF DIABETIC COMA

If the following clinical and laboratory data are carefully observed, one should encounter little difficulty in concluding a diagnosis of diabetic coma:

General Condition: (1) History (if you are able to get one) of progressive coma. (2) Nausea. (3) Vomiting (vomitus may contain blood). (4) Restlessness. (5) Abdominal distress. (6) Tympanitis. (7) Polydipsia. (8) Chest pain. (9) Hyperpnea. (10) Drowsiness. (11) Feeble, rapid pulse. (12) Low blood pressure. (13) Hypothermia. (14) Marked dehydration. (15) Parched tongue. (16) Dry skin and hair. (17) Soft eyeball. (18) Impaired vision. (19) Constipation. (20) Acetone breath. (21) Oliguria or anuria. (22) Reflexes may be diminished or absent. (23) Veins empty. (24) Many symptoms simulating uremia and shock with a vasomotor paralysis or a general collapse with circulatory and cardiac embarrassment.

Type of Breathing and Expired Air: (1) Low alveolar CO_2 tension. (2) Plus acetone in expired air. (3) Odor of acetone on breath. (4) Kussmaul breathing. This type of breathing is, with but few exceptions, pathognomonic.

Urine: (1) Sugar. (2) Acetone. (3) Diacetic acid. (4) Albumin (small amount as a rule). (5) Casts. (6) Blood cells. (7) High specific gravity. (8) Increased total solids. (9) There may be present an oliguria or anuria.

Blood: (1) Hyperglycemia (above 350 mgms. per 100 c.c. of blood). (2) Acetonemia. (3) Low alveolar CO_2 tension or combining power of the blood plasma. (4) Gradually increasing nitrogen retention. (5) Leukocytosis. (6) May be increased cholesterol.

TREATMENT

All cases should be hospitalized if at all possible. Here proper laboratory facilities are available and the necessary apparatus

for intravenous medication, etc., is accessible; also patient or some responsible friend may receive sufficient diabetic instruction to at least prevent an immediate relapse.

(A) If you are fairly certain that you are dealing with frank diabetic coma and patient is an *adult*, completely comatose and dehydrated, secure sufficient blood for a chemical study of sugar, CO_2 combining power of the plasma, non-protein nitrogen, cholesterol, chlorides and blood culture. If transfusion is considered, it is also advisable to have the blood typed and a regular count made at this time. It is by no means imperative that all of these tests be made in order to institute immediate and appropriate treatment. Frequently the Folin's micrometer method of sugar estimation is used exclusively, especially in children, but at times we may be deprived of this valuable calculation, and treatment must depend entirely upon urinary analysis, together with the clinical signs and symptoms.

With needle *in situ*, inject 50 units or more of insulin. Immediately instruct nurse to give a saline enema, temperature 105 to 110°, each pint of water to contain two level teaspoonfuls of sodium chloride; one to two quarts of water is usually sufficient at this time. Physics are not recommended, especially at this stage. A more thorough study of the case must be made before any laxative or cathartic is given, if administered at all.

Patient must be well covered and gotten warm as quickly as possible, placing several hot water bottles outside of first blanket (remembering that your patient is unconscious and that a diabetic burn may become a very serious complication). If nausea and vomiting obtains, stomach should be washed out very cautiously and carefully.

Not over thirty minutes should be required to secure sufficient laboratory data to proceed with treatment "B."

(B) Should laboratory findings reveal an elevated blood sugar and should there be a low alveolar CO_2 tension with plus acetone in expired air, inject intravenously 500 to 1,000 c.c. of Ringer's or normal salt solution, containing 25 to 50 grams of glucose with 50 units or more of insulin. One hour should be consumed in the intravenous administration of 1,000 c.c. solution. Subcutaneous insulin is given conjointly with this procedure, the amount depending en-

tirely upon the case at hand. It is not absolutely necessary to protect patient against insulin with glucose, neither should the intravenous route receive priority over hypodermoclysis in many cases. If the patient's age is within the "sclerotic zone," it has been our custom in the past to give one ampule of caffein sodium benzoate. Recently this drug has been questioned, in that it actually may cause the discharge or removal of glycogen from the heart muscle, which is certainly undesirable in these cases. Myerhof, Hartree, Hill, Long, and others, have demonstrated that caffein quickly produces the maximum amount of lactic acid from glycogen, both in the skeletal muscles and in the mammalian myocardium. There is depletion of the glycogen content of the heart muscle with the maximum accumulation of lactic acid. In our last four cases we have not used caffein as formerly, but have depended upon intravenous infusion of saline and glucose solution for cardiac stimulation. If the blood pressure is extremely low, associated with impending vasomotor collapse, 0.5 to 1 c.c. of 1/1000 solution of adrenalin is administered. This may be repeated when necessary.

Do not neglect the cardiovascular-renal system. Keep in mind the treatment of shock. Be on guard for a distended bladder or a dilated stomach. If, in this early stage, you have a fever, search carefully for some acute pathology—an abscess, mastoiditis, otitis-media, appendicitis, pancreatitis, etc., etc.

Frequently treatment "B" is started a few moments after the arrival of the patient, providing we secure a reliable history with the classical symptoms of diabetic coma, with Kussmaul breathing and low alveolar CO₂ tension and plus acetone in the expired air, together with a glycosuria and acetoneuria. (In these emergency cases, the alveolar CO₂ tension has proven to be a reliable index for beginning treatment and is a great time saver.)

Treatment "B" may be repeated several times in the first 24 hours, depending entirely upon the severity of the case. Usually, however, after the first or second treatment, clinical improvement is observed.

In these cases of marked dehydration, fluids must be supplied by some route—mouth, stomach-tube, retentive enema, con-

tinuous Murphy drip, hypodermoclysis, intravenously, or intraperitoneally.

Blood chemistry, expired air study, urinary analysis, etc., should be made every hour or two, especially during the critical stages of coma. It may be necessary to use an indwelling catheter. Too much precaution cannot be exercised in this procedure, as an infection in the genito-urinary tract may cause you much concern. Be sure that the bladder is completely emptied at each catheterization. Should some of the urine be retained from the former period, the Benedict's or Folin's reaction will be misleading.

(C) An unfavorable laboratory report does not necessarily preclude a general improvement of the patient. Frequently we have seen the Kussmaul breathing and unconsciousness disappearing before there is an increase in alveolar CO₂ tension or a decrease in acetone or blood sugar. After improvement is evident, hypodermic injections of insulin every thirty minutes to three hours or even longer intervals, dosage 5, 10, 15, 20 or more units, is the treatment of choice.

The following data will assist in establishing the status of patient, as well as serve in approaching the relative interval and dosage of insulin:

1. Any sign of general improvement.
2. Restoring of normal breathing.
3. Subsiding of nausea and vomiting.
4. Returning to consciousness.
5. Lessening of dehydration.
6. Declining hypothermia.
7. Increasing eyeball tension.
8. Slowing of the pulse rate.
9. Returning of reflexes (diabetics not in coma frequently have absence of reflexes).
10. Increasing blood pressure.
11. Reestablishing strength and fullness of pulse.
12. Symptoms of shock disappearing.
13. Decreasing abdominal distress.
14. Diminishing acetone breath.
15. Rising alveolar CO₂ tension or combining power of the blood plasma.
16. Acetone in urine, and expired air decreasing.
17. Increase in the output of urine.
18. Lowering of the specific gravity of the urine.

19. Disappearing of albumin, blood cells and casts, if present.
20. Decrease in total solids of urine.
21. Lowering of sugar in blood and urine.
22. Non-protein nitrogen decreasing, if increased.
23. Diminishing leukocytosis.

A reiteration of two formerly included statements is at this time appropriate: (1) There may be a decided amelioration of clinical symptoms prior to an improvement in laboratory findings. (2) The amount of insulin, salt, glucose, and stimulation used, and the interval of administration of the same, depend entirely upon the individual case. *No one knows the dosage of insulin in severe diabetic coma.*

With signs of vanishing coma, with blood sugar under 250 mgms. per 100 c.c. of blood, the interval and dosage of insulin should be more carefully guarded.

(D) This is a very important and critical stage in the treatment of these cases. As soon as the patient is able to swallow, retain and absorb, great care should be exercised in not overloading the already badly crippled stomach. Vomiting of blood is quite frequent, dilatation of the stomach is not uncommon. There is a complete upset in the whole gastrointestinal tract. Therefore, any food given should be a liquid, bland, non-irritating, easily assimilated.

One-half to one glass of strained orange juice, hot broth or strained oatmeal gruel, etc., at appropriate intervals, is excellent. *No fats or protein are permitted the first twenty-four to forty-eight hours.* If patient is capable of utilizing 75 to 100 grams of carbohydrate the first twenty-four hours, we are gratified. A few glasses of orange juice or ginger ale will accomplish this. For many years it has been our practice to adhere as closely as possible to the basic foods, as they tend to increase the hydroxyl ion concentration of the blood, which is a great asset both in the prevention and treatment of ketosis.

In conclusion: under no circumstances should these cases be permitted to leave the hospital until they have been taught at least a superficial working knowledge of the diabetic regime. Now is the opportune time to instill diabetic dietetics, ketogenic and antiketogenic principles, urinary analysis, symptoms and antidote of insulin reac-

tion, and at least a few rudimentary indications of oncoming coma.

Should the above treatment fail to control coma, blood transfusion may be attempted, as Atchey, Ross, and others report very gratifying results from this procedure, especially in overcoming shock with vasomotor collapse.

SUMMARY

(1) Diabetic coma is an emergency which demands an immediate, heroic, uninterrupted, and personally supervised treatment.

(2) The alveolar CO₂ tension estimation is invaluable as a time saver, and is a reliable index for the institution of immediate treatment.

(3) The basic foods excel in the prevention and treatment of coma.

(4) Factors that tend to increase the hydrogen ion concentration of the blood should be carefully searched for and eliminated, if possible.

(5) All foci of infection should be removed as quickly as patient's condition will permit.

(6) In desperate moribund cases we believe that the mortality percentage can be greatly reduced by the careful administration of larger quantities of fluid and insulin, dosage depending largely upon age and condition of the cardiovascular system.

(7) The initial and subsequent dosage of insulin is unknown, as every patient is a law unto himself, but enough must be given to control the coma, regardless of the amount used.

(8) Coma, if taken in time, usually vanishes before the "Four Horsemen"—Insulin, Salt, Water and Work.

(9) As soon as the oral administration of food is tolerated, very easily absorbed, non-irritating and well strained liquids, in small amounts, at not too frequent intervals, should be given, eliminating as nearly as possible, at least for the first twenty-four to forty-eight hours, *fats* and *proteins*.

(10) No patient should be permitted to leave the hospital until he has been instructed in rudimentary diabetic dietetics, urinary analysis, and at least a few symptoms and preliminary treatment of coma and insulin reaction.

BIBLIOGRAPHY

- Anderson, K. W.: Hyper-leukocytosis in Diabetic Coma. Minn. Med., Jan., 1930.

- Atchley, Dana W.: Medical Shock. *Jour. A. M. A.*, Aug. 9, 1930.
- Best, C. H.: Brief Review of Certain Physiological Properties of Insulin. *Canadian Med. Ass'n Jour.*, Aug., 1930.
- Bowen and Hekimian: Diabetic Coma—A Report of 81 Instances. *Annals Int. Med.*, May, 1930.
- Dobbs and Robertson: Relation of Aceto-Acetic Acid and the Cause of Death. *Lancet*, April 19, 1930.
- Dunn, F. Lowell: The Variability of Insulin Hypoglycemia. *Nebraska State Med. Jour.*, June, 1931.
- Ernstene and Altschule: The Effect of Insulin Hypoglycemia on the Circulation. *Jour. of Clinical Investigation*, Aug., 1931.
- Foster, Nillis B.: Insulin: Its Uses and Misuse. *Jour. A. M. A.*, June 21, 1930.
- Fullerton, Lyall and Davidson: The Treatment of Diabetic Uremia with Hypertonic Glucose Solutions. *The Lancet*, March 12, 1932.
- Harrop, George: Hypoglycemia and the Tonic Effects of Insulin. *Arch. Int. Med.*, July and December, 1927.
- John, Henry J.: Diabetic Coma. *Jour. A. M. A.*, Aug. 10, 1929.
- Joslin, Elliott P.: An Appraisal of the Present Treatment of Diabetes. *Jour. A. M. A.*, Aug. 29, 1931.
- Joslin, Elliott P.: Treatment of Diabetes Mellitus. Text Book.
- Joslin, Root, White, Jordan and Hunt: Diabetic Coma. *Medical Clinics of North America*, January, 1932.
- Lewrance, R. D.: The Treatment of Desperate Cases of Diabetic Coma. *Brit. Med. Jour.*, April 12, 1930.
- McCarthy, Donald: Clinical Signs and Treatment of Diabetic Acidosis. *Minn. Med.*, March, 1928.
- Ross, Fred E.: Abolishing Coma in Diabetics. *Penna. Med. Jour.*, March, 1931.
- Wade, Preston A.: Dextrose—Insulin Treatment of Shock. *Jour. A. M. A.*, June 9, 1928.
- White, Priscilla. Diabetes in Childhood and Adolescence. 1st Ed. Philadelphia: Lea & Febiger, 1932, page 114.

SOME PHYSICAL AND SOCIAL ASPECTS OF MALNUTRITION IN SCHOOL CHILDREN

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Those of the medical profession who examine many children in our metropolitan schools have observed that the undernourished child constitutes a real medical problem, the magnitude of which may be realized when we recall that there were 5,000,000 cases of malnutrition in children in the United States in 1930.

Realizing that this phase of child health is influenced by present day social upheavals, the author studied the relationship of malnutrition to physical defects and the bearing of the economic depression upon the nutrition of school children.

This survey, conducted in three city of Detroit schools, comprised the examination of 1,140 children. Each child was given a physical examination and parents were questioned concerning the child's health habits and the social status of the family.

"To be exact in the modern usage of the term," states Perlman, "good nutrition should imply not only proper weight, but the absence of physical disabilities as well as the presence of adequate musculature as determined by physical examination."

The classification of malnutrition used in this survey is based chiefly on clinical observation, weight being only a secondary factor. The clinical criteria which, if present, placed a child in the undernourished group were: lack of muscular turgor, pallor, lack of adipose tissue, signs of circulatory stagnation and underweight. Accordingly, a child 2 to 15 per cent below the standard weight, free from the above clinical criteria, was classified as underweight, and a child 10 per cent or more underweight, having two or more of the above

clinical signs, was considered to be malnourished. All other children examined are referred to as the average group.

Malnutrition was determined on the basis of clinical findings rather than by various measurements and mathematical formulae, because these latter standards are still in the experimental stage. Furthermore, as Harris aptly says, "so vast yet autonomous a process as growth in the child cannot be solved by anatomical studies of form (girth-chest measurements, etc.) any more than by mass statistics of height and weight."

In this survey, 1,140 children between five and fourteen years of age were examined. Of this number, 122 children, or 10.7 per cent, were malnourished, and 85 children, or 7 per cent, were underweight. The average group had 659, or 70 per cent, with demonstrable physical defects as compared with 89 per cent for the undernourished and 75 per cent for the underweights. Detroit Department of Health figures for 1931 show that of 56,656 elementary school children examined by school physicians, 58.7 per cent of them had physical ailments, and that of all children examined, 6.1 per cent were malnourished. Thus, this special group showed nearly five per cent more malnutri-

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TABLE I. PERCENTAGE WITH PHYSICAL DEFECTS BY GROUPS

Total Examined	Malnourished	Underweight	Total with defects	Average with defects	Malnourished with defects	Underweights with defects
1140	122	85	866	659	109	64
	10.7%	7%	75.9%	70.6%	89.3%	75.2%

tion and about one quarter more children deficient physically, than for the city at large.

Perusal of Table II brings to light some interesting findings. There are seven per cent fewer underweights and 15 per cent more malnourished who have diseased tonsils than in the average group; the latter having 36.4 per cent with this defect. Adenoid enlargement is found one-tenth more frequently in the malnourished than among the average children. Dental caries occur about as frequently in all three divisions, and is the chief deficiency observed. Dental surgeons explain this on the basis of an unbalanced diet, claiming that most children have too high a carbohydrate intake. Among the malnourished, anemia is the most pronounced physical defect, being observed in 68 per cent of this group, while the underweights number 18 per cent of their group as anemics, and the average children show nearly 8 per cent.

Cardiac abnormalities were found three per cent more frequently in the undernourished group than among average children; the percentages for the two groups being, average, 2.1 per cent and malnourished 4.9 per cent; while the underweights were entirely free from any heart defects. Evidence of thyroid hyperactivity occurred in about two per cent of the average, one per cent

of the underweights and in four per cent of the undernourished.

To summarize, then, we find that every region examined, except the teeth, demonstrated that malnourished children had decidedly more physical defects than either the average group or the underweights. In order of frequency, these defects are (1) anemia, (2) tonsils, (3) teeth, (4) adenoids, (5) heart, (6) thyroid. Anemia was present 60 per cent more frequently in these malnourished children than among the average group. This is not surprising when it is recalled that under average children are derelict in partaking of fresh green vegetables, milk and eggs; that many of them shun outdoor play; and that they do not get sufficient sleep. In brief, most undernourished children are anemic because of poor health habits and focal infections.

By way of contrast, the underweights have fewer physical defects, with the sole exception of anemia, than either of the other two groups. The better health record of underweights is probably due to the greater care these children receive. More of this group have focal infections treated than do the average or the malnourished children. Many of these underweights represent children of the linear type build and, for the most part, so-called below standard weight is normal for them.

TABLE II. PHYSICAL DEFECTS ACCORDING TO GROUPS

Defect of:	Total Examined		Average		Underweights		Malnourished	
	number	per cent	number	per cent	number	per cent	number	per cent
Tonsils	428	37.5	339	36.4	24	29.4	65	53.2
Adenoids	108	9.4	78	8.3	7	8.2	23	18.8
Teeth	612	53.6	505	54.1	41	48.2	66	53.2
Anemia	171	15.0	72	7.6	16	18.8	83	68.0
Heart	26	2.2	20	2.1	0	0	6	4.9
Thyroid	28	2.4	22	2.3	1	1.0	5	4.0

It is believed that diseased tonsils have a detrimental effect on the general health. This theory has been substantiated by Kaiser, who recently reported his observations of 4,400 children over a ten year period. Half of these children had tonsillectomies and the other half did not. His observations confirm the impression that focal infections have a direct bearing on malnutrition. He says that when large groups of tonsillectomized children and children without tonsillectomy are compared as to their nutritional status, it is found that more than ten per cent of the non-tonsillectomized children are malnourished. Perlman, after his study of 400 malnourished children, is prompted to say that focal infection is one of the common causes of malnutrition. And Rosenberg states, "that if a thorough enough study of the children suffering from malnutrition was made, the great majority would show a disease or defect somewhere in the body responsible for the condition."

ANOREXIA AND NUTRITION

What is the relationship of anorexia and nutrition? This investigation shows that ninety-two of 207 children had either a poor or only fair appetite for vegetables, fruit or milk. Fifteen of the ninety-two had no other physical defect. Seven of these fifteen were malnourished. Twenty of 112 with good appetites had no physical defects, and five of these twenty were malnourished. To put it more succinctly, 78 per cent of those with anorexia were in the malnourished group and 17 per cent with anorexia had no other physical defects. Conversely, 59 per cent of the malnourished had poor appetites and only 0.5 per cent of the malnourished had no other defect than anorexia.

While ninety-two of these 207 underaverage children suffered from anorexia, yet information furnished by parents revealed that 170 of them ate poorly of vegetables, fruit and milk. This means that 44 per cent did not *desire* food and 82 per cent did not *get* a sufficient amount of foodstuffs.

What bearing did the present depression have on these 82 per cent not obtaining sufficient food? It was found that 23 of the 67 malnourished who did not get enough to eat were from families where the wage earner was unemployed. These same 23 children had good appetites. Therefore, one-third of all malnutrition in this group

is traceable to social condition, *i.e.*, an inability to get sufficient food for bodily needs.

It was found that many parents considered flesh foods to be the most essential article of diet. Rosenberg states that the undernourished child is one who consumes large quantities of flesh foods and comparatively little milk, cereal, fresh fruit, and fresh vegetables. He placed 25 undernourished children on a special diet containing these neglected foodstuffs. As a result, the experimental group increased 32 per cent in weight and 24 per cent in height over the control group. As Metzger says, adequate diet alone will not suffice to cure all cases of malnutrition, yet it is a very important factor.

MALNUTRITION AND SOCIAL STATUS

In the fall of 1931, when this survey was undertaken, we were in the throes of the economic depression. The question arose as to what bearing unemployment had on the problem of malnutrition. Hence, an inquiry into the social status of all these malnourished children was made.

In the three schools where this survey was conducted, there were 1,420 families. Of this number, 253 heads of families, or 17.8 per cent, were unemployed. In comparison, there were seventy-four malnourished children from sixty-seven families where the bread-winner was unemployed. That is, there were 60 per cent of these undernourished children from families which were victims of the depression; whereas, 27 per cent of all the unemployed parents in these districts had malnourished children. After evaluating these figures, we are justified in concluding that about one-third of the malnutrition observed in these children is primarily due to economic restrictions caused by the present depression. The other two-thirds is due to other causes, chiefly physical defects.

While these conclusions are assailable on the ground that two-thirds of the unemployed families had children who were not classified as malnourished, yet a great many children were observed who could have been classified as slightly undernourished according to Perlman's standards. These children were excluded from the picture to avoid confusion. If the beginning and borderline cases were included, the majority of chil-

dren of unemployed parents would be listed as malnourished. This is borne out by the report of the Detroit Board of Health, that malnutrition has risen from six per cent as of 1931 to 18 per cent in the fall of 1932.

What is the past record of these malnourished children as to their nutritional status? Seventy-seven of these 122 children were found to have school health records of more than one year's standing. The others were new to the Detroit Public Schools and had no records.

Of these seventy-seven children, sixty-four of them, or 83 per cent, had demonstrable physical defects during their school careers. Twenty of them, or 26 per cent, were not malnourished before 1931, and twenty-four others, or 32 per cent, were malnourished in both 1930 and 1931. The records show that fifteen children, or 19 per cent, were undernourished since 1929; while only eighteen, or 23 per cent, gave a history of nutritional deficiency which antedates the first year of the depression, *i.e.*, 1929. This latter group of eighteen children represents those whose malnutrition is attributed chiefly to other than economic causes, primarily physical defects of the focal infection type.

This is no simple problem in which we can lay a finger on a single factor and say, "that is the cause." Neither economic conditions nor physical defects can be considered the sole cause of malnutrition, but, by combining the two factors of physical defects and economic privation, there is sufficient reason for any of these children to suffer a nutritional breakdown.

Statistical studies, such as this, are valuable only when properly interpreted and when we remember that their application is limited. Keeping these points in mind, five general conclusions may be drawn from these observations: (1) that 10 per cent of school children were malnourished and 7 per

cent were underweight; (2) that the malnourished had more physical defects than either the average or underweight children; (3) that anemia was the chief defect among the poorly nourished children; (4) that anorexia and focal infections were important factors in this problem; and (5) that one-third of the malnutrition in this group is closely related to the present economic depression.

Faced with these conclusions, what is the remedy? It is beyond the scope of this article to discuss what should be done to cope with this problem, any further than to indicate, in a general way, the line of attack. It appears that the solution is primarily educational. It is a matter of preventive medicine just as much as is the eradication of diphtheria or smallpox. Hence parents must be told something about nutrition in terms of food values; child psychology in the matter of eating; how necessary it is to correct defects that harbor focal infection, etc. Private physicians must be enlisted to combat this physical ailment, just as they have aided in the attack on tuberculosis. County medical societies can render singular service by giving publicity concerning the extent to which malnutrition has spread among school children, as well as by furnishing qualified speakers to address parent meetings in the various schools. A program along these lines should be fruitful in reducing the high incidence of poor nourishment among American children.

BIBLIOGRAPHY

1. Perlman, H. H.: *Med. Jour. and Rec.*, 130:148, Aug. 7, 1929, Aug. 21, 1929.
2. Lucas, W. P., and Pryor, H. B.: *Am. Jour. Dis. of Child.*, 41:249-261, Feb., 1931.
3. Schultz, F. W.: *Jour. A. M. A.*, 94:73, Jan. 11, 1930.
4. Kaiser, A. D.: *Am. Jour. Dis. of Child.*, 41:568-581, March, 1931.
5. Harris, H. A.: *Lancet*, 220:691-698, March 28, 1931.
6. Metzger, H. C.: *Jour. Mich. State Med. Soc.*, 29:896-898, Dec., 1930.
7. Rosenberg: *Am. Jour. Dis. of Child.*, 41, 303-336, Feb., 1931.

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GYNECOLOGICAL SYMPTOMS OF THE MALADJUSTED WOMAN

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For years surgery has been under the domination of the anatomists and pathologists. Surgical procedures have been based on physical findings that deviated from an accepted norm. Physiology is gradually assuming the prominence due it. The surgeon of today is interested not alone in the correction of anatomic deviations and the removal of pathologic debris but in the restoration of normal function as well.

It is my belief that there are many emotional causes for gynecological complaints, and that an understanding of these emotional factors is of primary importance in the successful handling of patients. We cannot make a diagnosis of "neurosis" and absolve ourselves from further responsibility.

Socially man has evolved through many successive types of living. He has lived in trees, in caves, as a nomad following pasturage for his flocks, and in simple agricultural communities. Since the industrial revolution ever increasing numbers have been herded together in crowded manufacturing centers; living under crowded, shifting conditions. In his upward climb he has evolved new physical structures, new ways of living and new emotional responses that are representative of the cumulative experiences of mankind. He has received as a portion of his inheritance emotional responses that make his adaptation to present society difficult.

Man owes his present status to the fact that he has learned by conscious acts to control, at least in part, his environment. He has learned to protect himself from his enemies—be they beasts, plants, adverse elemental changes or other men. Because of mind he has learned to control and direct natural laws. By a study of comparative anatomy, physiology and pathology he has learned about disease processes and has been able to gradually assume control of his organic self.

But it is only in the past half century that man has seriously begun the study of his emotional life. We shy from studying our instinctive responses by comparison with lower forms, but in time we may be able to *so far submerge* our egos as to allow a careful analysis of comparative emotional inheritances and recognize the basic etiologic

factors at work. We can then set about, with our equipment of consciousness, to direct our emotional forces along constructive lines.

Since humans first combined for mating and protection, woman's sphere in society has undergone marked changes. Her first and most important contribution to humanity was her reproductive function. The wealth of a family, tribe or nation depended on numerical strength, and offspring were of paramount importance. Because of the long period of gestation and dependence of the child upon its mother, the woman was somewhat incapacitated and needed the protection of man if she and her young were to survive. Because of woman's dependence on man she fell under his domination to such an extent that her primary sexual impulses were obscured. Her sexuality is no longer a simple physiologic response to a gonadal drive. When she wishes special consideration she has learned by years of social experience to trade with her sexuality as her most effective weapon. She may trade her physical capacity for protection, food, shelter, clothes, luxuries or even social position. Later in the marital state she may withhold herself consciously or unconsciously as evidence of her disapproval.

The woman who is unable to adjust herself to the conditions of life under which she is living often finds escape from her emotional difficulties in illness. The form of illness is often connected with the genital tract. This type of illness will secure the greatest amount of sympathy or most effectively demonstrate what she has suffered as a result of her husband's lack of consideration. Many a mother has kept her entire family in subjugation by invalidism due to real or imaginary childbirth injuries.

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As society becomes more complex women's fertility is less important. Excessive childbearing is often more of a handicap than an asset and the problem of avoiding pregnancy is the source of constant emotional strain for the husband as well as the wife. The support of an ever increasing family still falls on the father's shoulders. Under the pressure of customs applicable to a former civilization, society forbids the dissemination of sane contraceptive information and condemns people to futile, haphazard, bootleg methods that are productive of much harm. Many women are sacrificed each year as a result of criminal abortions, that could have been avoided if proper contraception were taught. The number of families wrecked each year by excessive childbearing or the fear of repeated pregnancies can not be estimated. Many women who present themselves at physicians' offices with various gynecological complaints are those who are using illness as an escape from repeated pregnancies or are suffering from the ill effects of unsatisfactory sexual experiences brought on by improper contraceptive methods or ignorance of what constitutes a complete sexual response.

As woman has risen in the social scale she is demanding, and rightfully, the right to her individuality. She is more than a reproductive complement to man. Sex must mean more to her than the means to economic security. If to a man sex meant pain, discomfort and pregnancy without compensating satisfaction to his erotic needs, would he be satisfied? Woman's sexual needs and response are not identical with man's. Man must learn that woman's sexuality is less direct. It is a more diffuse part of her whole emotional life. Sympathy, intellectual stimulation, emotional compatibility are all necessary to complete her sexual life. Mating comes to her as a response to a general harmonious feeling of well-being rather than as the result of a specific erotic stimulation. It is only with difficulty that man, with his desire for relief of distended seminal vesicles, can comprehend this totality of the sexual life of woman. The fundamental difficulty in man's understanding of the emotional life of woman is that he resorts to the opinions of other men, who interpret women's reactions in terms of their own desires. The average man has obtained his knowledge of

sex from his own unanalyzed instinctive urges and the erotic flights of imagination so prevalent in the atmosphere of the latrine. If we are to learn about women's responses we must refer to the things that women have to say about themselves.

In the animal kingdom the female allows the male to approach only when she is in heat. Man and certain species of monkeys alone expect the female to accept his advances at all times. To the female of the human as well as other animals the sexual urge comes in cycles and these cycles correspond to the times when pregnancy is most likely to occur. Man cannot expect to find in the normal woman the same frequent intensive urge he experiences and since monogamy is the standard set by our social structure he must learn to recognize sexual differences and make suitable adjustments.

It is very difficult, at times, to determine whether the basis of a group of symptoms presented is emotional or physical. Many women present a background of emotional maladjustment and physical deviations as well. However, evidence of passive congestion in the genital tract is always suggestive of marital maladjustment and in such cases effort should be made to seek out the emotional factors involved.

One of the commonest gynecological complaints is that of dysmenorrhea. The discomfort complained of shows the widest range of variation. Physically these patients may present no appreciable deviation from the normal anatomy. Others may show many pathological changes without ever complaining of discomfort. In the individual who has had a dysmenorrhea since adolescence it is well to inquire into the family history. We may find that mother, sisters, and even grandmothers all had similar experiences and the case in question is simply following out the family pattern. The patient may have had no instruction as to the physiology of menstruation and the first occasion came with slight discomfort but without warning and was productive of much fear and apprehension. The explanation given may have been extremely meager or inhibitive in type and the whole process shrouded in mystery and listed among the taboos. To such a patient it is not natural that the slight amount of physical and emotional depression normally occurring at such times should be exaggerated to the point of

almost becoming an obsession? Dilation of a cervical stenosis, the correction of a malposition or even an elaborate plastic operation upon the cervix may be followed by a disappearance of the symptoms but often the results so recorded have been produced more by the emphatic assurance of the surgeon than by his technical surgical skill.

Dyspareunia is a common complaint and may be due to vaginal scar tissue or irritating discharges from an infected cervix. In most cases, however, it is simply the individual's negative emotional response. She may be fearful of pain or possible pregnancy. She may have ingrained in her make up, by previous faulty training, a feeling that indulgence is bestial. Her submission may be fostered by a sense of marital duty rather than a response to erotic desire. The husband may cause unnecessary discomfort by his clumsiness. He may be so lacking in understanding that he is interested alone in his own physical relief and so inhibits any possible natural response that she might have. Careful instruction as to the significance of the erotic impulses of both man and woman, the dispelling of faulty taboos set up in early training, and the studied experimentation of various types of amorous technic will be productive of many more cures than will the surgical knife. The use of a surgical jelly as a lubricant will often affect quick and speedy cures.

Pruritus may vary widely in intensity. Often irritating discharges, rectal fissures or systemic disease may be the causative factors but there is a group of these cases in which the etiology is emotional and not physical. The itching is often a disturbance in satisfaction of the erotic needs of the individual. A subconscious sexual urge strongly inhibited or improperly satisfied may be productive of localized discomfort and an acute awareness of the genital tract. Surgery of the vaginal or anal region will probably be of little benefit to this type of patient.

In the short space of time allotted it will be impossible to present case histories covering the many phases of maladjustment suggested in this paper. The report of a particular case may be illustrative of the difficulty that is sometimes encountered in the determination of the etiologic factors at work.

CASE REPORT

Mrs. W. T. was seen for the first time on May 5, 1929. Her chief complaint was a menorrhagia. Her family history was irrelevant and, with the exception of mild cases of the ordinary diseases of childhood, she had always been in good health. Menses had begun at thirteen and were three days every twenty-eight days type with slight discomfort. She was married at eighteen. She promptly became pregnant. The gestation period was normal. The labor was of about fourteen hours' duration and spontaneous. The postpartum period was afebrile and she felt no unusual discomfort for two years. Then she noted that her periods were increasing in severity. There was a prolongation of the bleeding and increase in the amount. This has gradually increased in severity until at the present time she flows hard for seven to ten days and there is enough bloody discharge for about three weeks that pads are required. In each cycle there is only about six to ten days when she is free of bloody vaginal discharge. There have been no further pregnancies, the patient stating at this time that no form of contraception had been used, and she stated that were it not for the bleeding she would consider herself in good health.

On physical examination, we find a well developed adult female of twenty-five years, weight 134 pounds, height 64 inches. Head, neck and thorax were essentially negative. Pulse rate was 74; systolic pressure 100; diastolic 62. There was no evidence of any cardiovascular disturbance. The abdomen was rather lax with some tenderness on deep palpation over both Morris points. Gynecological examination showed a slight relaxation of the pelvic floor. There was a slight bilateral laceration of the cervix with some ectropion. The uterus was slightly enlarged, boggy, third degree retroversion. There was considerable tenderness along both broad ligaments. The right ovary appeared to be enlarged and was prolapsed. On inspection the cervix and vaginal walls showed a bluish discoloration that is so often associated with passive hyperemia and there was a slight trickle of blood from the external os. There was no evidence of auto-erotic practice. Urine was normal. Hemoglobin was 75 per cent; red blood cells, 3,780,000; white blood cells, 6,400. Wassermann and Kahn tests were negative. Basal metabolism rate was 2 plus.

A curettage was first done, the only findings being that of a simple premenstrual endometrium. The cervix was lightly cauterized. On opening the abdomen the uterus was found to be in third degree retroflexion with the right ovary prolapsed in the cul-de-sac. There were varicosities of the mesosalpinx. The uterus was boggy and slightly enlarged. The right ovary contained a retention cyst about 4 cms. in diameter and two small unruptured follicles. The left ovary showed no gross pathology. The tubes were patent, somewhat tortuous and showed evidence of marked passive hyperemia. The appendix appeared abnormal. A resection of the right ovary with puncturing of the smaller cyst was done. Then a Gilliam suspension and appendectomy completed the work.

The patient made an uncomplicated postoperative recovery. And for the first three months she was in good health and there was no abnormal bleeding. The periods were of 5/27-29 type. During the fourth month the period was prolonged for seven days, and in six months the periods were of about two weeks duration. After a great amount of effort had been spent in attempting to get additional information from the patient as to possible emotional factors that might have some bearing on the case the patient reluctantly gave the following informa-

tion. She came from a rather large family and it was impossible for her to secure the education that she desired. The amount of work to be done at home prevented her from following out her personal ambitions and so she married as an escape. She had no instructions as to the adjustments she might have to make.

She had some erotic impulses, but pain precluded any possible satisfaction. She promptly became pregnant. During this period she appears to have been moderately well adjusted. The husband's demands, however, were always much greater than hers. After the first pregnancy they were both extremely fearful of another pregnancy. He for economic reasons and she not wishing to repeat her own family pattern that she had found so distasteful. Coitus interruptus was then used as a means of contraception. With this method she obtained no erotic satisfaction and as the husband's demands became progressively more insistent she became more and more dissatisfied. The only time when she was free from this demand was during the time of actual bleeding. The bleeding that she had was not feigned. The problem was then fully discussed with both husband and wife, and she was instructed as to proper contraceptive methods. Within two months the atypical bleeding ceased and since that time the patient has been seen at intervals of six months. There has been no return of symptoms and both husband and wife appear fully adjusted.

I am fully convinced that there are scat-

tered in our practices many similar cases. That much surgery is being done that would be unnecessary if the emotional problems could be corrected. Indiscriminate surgery, vaginal treatments with tampons and various electrodes will no longer suffice as adequate therapeutic measures with the new generation. The laymen are becoming better educated. They are too well informed to be taken in by Medical Voodooism. We must be prepared to not only correct the physical disabilities but understand the possible emotional problems that may be involved. By so doing we will widen the scope of our therapeutic armamentarium.

BIBLIOGRAPHY

- Adler, A.: *Understand Human Nature*.
 Davis, Kathrin B.: *Factors in Sex Life of Twenty-two Hundred Women*.
 Dickenson & Bean: *Analysis of a Thousand Marriages*.
 Forel, A.: *The Sexual Question*.
 Frank, R. T.: *The Female Sex Hormone*.
 Hamilton, G. V.: *A Research in Marriage*.
 Keyserling, et al.: *Book of Marriage*.
 Kunkel, F.: *Let's be Normal*.
 Watson, John B.: *Behaviorism*.

INJURIES OF THE KNEE JOINT

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DETROIT, MICHIGAN

From the industrial standpoint knee joint injuries merit increasing consideration in the pressing effort to shorten temporary and eliminate or decrease permanent disability. Non-occupational accidents to this joint also seem to be on the increase with the elevated tempo of modern life and activities, and are even more prone to be given less serious attention than they often deserve. It is the purpose of this paper to review the more important types of injury, and the methods of treatment as developed by those dealing mainly with joint problems.

For the purpose of brevity purely extra-articular lesions such as acute or chronic prepatellar bursitis, ganglia, etc., will be omitted, and the discussion divided into the following headings: (1) Strain and Sprains, (2) Internal Derangements, (3) Dislocations, (4) Fractures, including pa-

tella, and (5) other injuries of the extensor apparatus.

STRAIN AND SPRAINS

The writer selects the term strain for disturbances of the knee developing gradually from use without any primary exciting incident, yet often aggravated by a comparatively minor injury. The location of the lesion is usually the mesial collateral ligament of the knee, with aching or pain referred to this area, a sensation of stiffness, sometimes a limp, and if sufficiently chronic possibly a slight synovitis with effusion. The etiological factors in chronic knee strain are static, resulting in undue tension

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on the mesial ligaments from valgus posture in leg or foot. Their persistence may lead to sufficient stretching of the collateral ligament to impair also the attachments of the coronary ligament to it, with meniscus hypermobility and predisposition to displacement. In addition to the valgus strain itself, badly pronating feet produce a torsion strain on the knee with each step, favoring irritation of ligaments and meniscus. The examination in strain will show discomfort referred to the inner side of the knee on forced abduction of the knee and forced hyperextension. If the irritation involves the coronary fibres, pain will also be produced on torsion of leg on thigh. The treatment in severe cases may require complete rest or fixation, but ordinarily alleviation of the static defect by the Thomas heel or by the Whitman weak foot brace, plus strapping of the knee (criss-cross with decussation over the ligament) and physiotherapy, including primarily massage, with preliminary baking, and exercises to tone up the quadriceps apparatus, especially the vastus medialis portion, constitute the treatment program.

Sprains of the knee are considered as acute injuries, involving a sudden stretching and more or less tearing of ligamentous fibres, contusion of joint surfaces, and synovitis with varying degrees of effusion. Immediate pain is experienced, with a short period often following of quite mild discomfort, and after some hours steadily increasing pain on use, with disability. Swelling due to the effusion gradually develops. To examination there will be a varying degree of generalized tenderness to palpation, more acute over the collateral ligament that received the strain, and if some slight degree of meniscus loosening is involved, the tenderness will be present also along the joint line anterior to the collateral ligament. Fluctuation ballottement of the patella will occur with the presence of effusion and to inspection there will be fullness with obscurity of normal anatomical markings. Voluntary muscle protection may prevail but motion will be obtained to nearly full extension and to right angled flexion or more depending on the effusion. To manipulation there will be marked pain on lateral stress referred to the collateral ligament on which tension is being placed. If pain is produced on same side by stress in opposite direction, some degree of meniscus injury has also oc-

curred, and pain on torsion will be equally marked.

In the milder grades of acute sprain use of the knee may be permitted with strapping, or bandage or a felt and flannel support, but considerable reflex quadriceps atrophy is likely to develop, with ensuing instability, and should be combated later by massage and exercises. Any effusion that floats the patella should be aspirated. This is very important, for the resultant capsular stretching otherwise will leave the joint unstable, and will also result in excessive reflex quadriceps atrophy. In any case with a considerable effusion, and especially with any degree of hemarthrosis, fixation of the joint for from one to three weeks should be accomplished. This is best done by cast, which should immobilize the joint, and to do this must extend above to the trochanter. Physiotherapy should follow till quadriceps function is normal. If primary hypermobility was present, a jointed knee brace to prevent lateral strain is indicated for one to three months. With effective initial treatment the immediate disability may be as little as one week and never over four, and permanent disability should not occur. However, with some acute sprains moderate impairment of the integrity of the meniscus, sufficient to ultimately require classification as internal derangement, may prevail.

INTERNAL DERANGEMENTS

Of the various internal derangements of the knee, injury to the meniscus (semilunar cartilage) is the most common. The mesial meniscus is involved about ten times as often as the lateral one. In its milder grades it is often difficult to distinguish from acute sprain, and will include the usual symptoms of the latter. However, if the patient obtained a sensation of dislocation or of the knee "going out" at the time of injury, a displacement or a tear of the meniscus is to be suspected, and fairly strong corroboration obtains from certain manipulative tests. Assuming a mesial meniscus injury, manipulation producing a varus stress will be more painful than one in valgus, and torsion in eversion will be more painful than in inversion. For an external meniscus the reaction will be in reverse fashion. Also confirmative is the presence of tenderness along the joint line

anterior to the collateral ligament and over the alar ligament.

The least severe meniscus injuries consist of stretching or partial tearing of the coronary fibres which attach the cartilage at its outer border to the head of the tibia, and so permit the meniscus in its anterior third to move too far under the femoral condyle in flexion and be jammed there for an instant on the returning movement. In a more severe injury the jam may be more complete, and since, as has been shown experimentally, the amount of compression ensuing between the two bones when the collateral ligaments are intact and the knee extends over even a thin substance between the joint surfaces, is enormous, the cartilage will be torn or fractured. The fracture may be a linear one, running circumferentially around the length of the meniscus, and the central portion will be displaced across the head of the tibia to lie toward the center of the joint under the intercondylar notch.

This is a nuisance injury, as the knee may become free again in motion and symptomless for periods, with occasional drifting back of this loop of cartilage under the condyle and momentary "catching" and "giving way" of the knee. Frequently one has to depend almost entirely on story and subjective symptoms for the diagnosis of this particular lesion. Occasionally this very thin central loop or fragment may wear away by attrition and absorption and the joint become permanently symptom-free.

A more severe form of meniscus damage results when the entire relatively mobile anterior third gets caught under the condyle and is snapped inward, completely severing its attachments to the front of the tibia. This produces the most typical symptomatic picture of internal derangement, with intermittent complete lock or block against extension and great pain. The fibres passing to the cornu from the alar ligament may hold and make possible manipulative or spontaneous reduction by their effect in drawing the mobile end back to the front of the joint. Otherwise this type of meniscus injury without surgical treatment is very likely to leave a permanent internal derangement of the knee.

The last form of cartilage lesion is the so-called bucket-handle fracture, in which the middle third or more of the meniscus is torn loose from the rim of the tibia, flopped

over on itself and displaced to the intercondylar space. The knee will then operate without actual locking but with a clicking or heavy crepitation and full extension is never possible, with the attempt productive of pain and a tight feeling behind the knee as the posterior capsular ligament receives the leverage tension.

The treatment of meniscus injuries may take three forms according to the severity of the lesion. The partial loosening or mere hypermobility may be controlled by several weeks of strapping to prevent rotation and abduction, followed by physiotherapy to ensure maximum muscular stabilization. Recurrence, however, should lead to cartilage removal. Some anterior horn dislocations may be manipulated into place, with residual completely normal hyperextension the criterion of reduction, and, after plaster fixation for a month followed by the use of a knee cage brace, permanent healing of the torn ligaments and recovery of stability may occur. Recurrence, however, may be considered an indication for removal. In complete central displacements and bucket-handle fractures, evidenced by a block, and inability to bear weight without pain, operative treatment is the only recourse.

ARTHROTOMY FOR CARTILAGE INJURY

In skillful hands the surgery of meniscus injuries is almost invariably successful and highly gratifying. It does require a meticulous aseptic technic, delicacy of manipulation and more familiarity with the internal anatomy of the joint. It frequently can be performed without difficulty with local infiltration anesthesia. It is important that the indications be definitely established, but the exact form of derangement may often be ascertained only at operation. Operators with considerable experience in this field of surgery have learned that a moderate amount of meniscus hypermobility may maintain derangement symptoms, as proved by relief following the removal of the cartilage. In a rather large experience the writer has but once entered a knee joint with a diagnosis of meniscus injury without finding demonstrable evidence of pathology; but the general experience seems to be that with a suggestive history and examination, a questionable degree of cartilage hypermobility is best treated by removal.

The joint cavity is approached through a

short curved incision at the front but nearer the affected side, yet should not divide the mesial collateral ligament. The joint cavity is reached by a systematic incision of the various layers and careful ligation of the plexus of vessels beneath the fibrous capsule, before the synovial membrane is opened, and the latter is then incised under tension between clamps as in entering the peritoneum. The primary opening should be well above the joint line and carried down to the latter under direct vision, to avoid incising the meniscus and coronary ligament in the event of a peripherally split cartilage lesion only. A narrow blunt retractor draws the alar ligaments out of the way, the knee is partly flexed and the cavity inspected. In the type of lesion just referred to the centrally displaced loop may alone be excised, if the peripheral portion is not hypermobile. The normal degree of mobility must not be forgotten.

In anterior horn displacements it may be feasible to remove only a half or two-thirds of the cartilage. In bucket-handle fractures it has been the writer's practice to remove the entire cartilage completely, and if the knee is flexed and rotated and a special knife used this is not very difficult. If the knife hugs the cartilage closely there should be little residual bleeding. Opinion differs as to desirability of a tourniquet. Experience in operating under local anesthesia has led me to consider it of no important assistance. It is essential that great care be used in the placing of retractors, that intra-articular sponging should be minimal and only with moist gauze or cotton pledgets and that hemostasis be as complete as possible. A light absorbable suture, double or single 0 plain catgut, should close the synovial membrane, slightly everting its edges. A heavier chromicized suture or silk should be used for the fibrous capsule.

On the whole it is probably advisable to follow operation with a short period of immobilization and my own preference is for the posterior (Cabot) splint rather than plaster. A heavy moderately compressive flannel dressing is applied over the knee first. The patient should remain in bed for a week. A rise of temperature of one or two degrees may be expected in the first two days but it should be normal by the fourth. If postoperative effusion is slight or absent, on the fifth day massage from patella to the

hip is begun in the splint. The latter is replaced at the end of a week by a heavy felt and flannel support and motion encouraged. At this stage the patient may be up and about on crutches and weight bearing should be encouraged after the tenth postoperative day. Physiotherapy should continue till quadriceps tone returns to normal. A normal range of motion can be expected within a few weeks. Very slight excess lateral mobility may persist for a while, but with good quadriceps tone functional stability and recovery should be complete and former occupation resumed, as well as capacity for participation in the more strenuous forms of athletics.

CARTILAGE CYSTS

Before leaving the subject of semilunar cartilage lesions a relatively infrequent type of pathology should be mentioned, which has been considered as a sequela of joint strain but is probably a degenerative condition not etiologically traumatic. I refer to cartilage cyst, extremely rare in the mesial meniscus, being usually in the lateral one. The symptoms are a gradually developing aching or boring pain at the side of the joint, aggravated by walking or by forced extension of the knee, and often first noticed after a minor injury or bump. Very early a soft swelling will have been noted. To examination the joint is free from evidence of injury, there is no clicking, but there may be a few degrees deficiency in extension. Visible at one side of the joint line is a small swelling which is soft, cystic in feeling, and slightly tender to pressure. It gives the erroneous impression of an extra-articular sac or ganglion and this is important in planning surgical intervention. It should not be confused with bursa or ganglion, as it is not in relation to any tendon. The treatment is operative and means the complete excision of the meniscus, as removal of the cyst alone invariably seems to be followed by recurrence, and the cartilage elsewhere on microscopic examination will give evidence of cystic degeneration.

JOINT MOUSE

The next form of internal derangement of the knee to be considered is "joint mouse" or loose body. When multiple (osteochondromatosis), a background of chronic hypertrophic synovitis exists and

this type does not belong in a traumatic classification. Joint sprains, however, may involve a nipping of a synovial fringe, followed by fibrous and chondrous degeneration, with production of a pedunculated or free loose body. Or a bit of cartilage may be detached and continue to grow from the adequate nutrition of the synovial fluid. Catching and clicking will be a symptom, but unless the "joint mouse" is large and palpable, locking or limitation and pain on manipulation will not be found, and synovitis will not occur. When a pedicle persists, calcification in the loose body may occur, making it roentgenologically visible. The "joint mouse" is frequently migratory. As long as it lies in the quadriceps pouch, although palpable, it will not be very symptomatic. If it migrates into the lower compartment it produces clicking, catching and pain. A special form of joint mouse found in the lower compartment is that known as osteochondritis dissecans, in which a considerable lozenge shape segment seems to sequester from the mesial condyle of the femur adjoining the notch. This location has led to a theory of impingement of the spine of the tibia in a rotation strain, but this is debatable, and the pathology is also held to be an aseptic necrosis. The surgical removal of loose bodies is simple and does not require discussion, save for the point of final determination of the exact location of the joint mouse immediately prior to operation.

SLIPPING PATELLA

A form of derangement of the knee usually included in traumatic classifications is luxating or slipping patella. Unquestionably a certain form of injury with direct violence may produce a tear of the capsule and force the patella off the trochlea to the side of the condyle. In this event it is extremely difficult to replace by the patient and severely painful, with a marked effusion following. Recurrences are much easier and spontaneously reducible. However, most slipping patellas are basically congenital, with some degree of capsular relaxation and hypermobility present on both sides, and a family tendency usually prevails. The dislocations tend to be more and more frequent and become a disabling handicap eventually. While some improvement in stability may attend the use of a knee cap or a patella

harness, it is rare that any permanent effect is obtained, and, as in recurrent dislocation of the shoulder, the only cure is operative.

Several measures of surgical reconstruction have been devised. Probably the best and simplest is the modification of Goldthwaite's operation, whereby the tibial tubercle carrying the patella tendon is detached and re-embedded an inch or so more mesially on the front of the tibia. The resulting mesial line of pull on the patella keeps it away from the danger point over the lateral condyle. In a rather limited experience with this condition the writer has found this operation very satisfactory, although in one case of a badly and repeatedly traumatized knee with great relaxation it was necessary secondarily to do a capsular reefing with forward transfer to the patella of the gracilis tendon. Each of the two latter procedures has been advocated in surgical relief of slipping patella, but alone is not as likely to be dependable. In a single case in an adolescent the writer was successful by means of a capsular reefing plus a silk ligament suspension tether to the side of the mesial condyle. Of a similar character is the operation of Gallie, of a tether by a fascia lata graft. All the above mentioned procedures can be performed without opening the joint cavity. Albie has advocated and successfully used a bone plastic operation in which the trochlea portion of the external condyle is loosened and blocked up higher with a bone graft.

RUPTURED CRUCIALS

An injury to the crucial ligamentous apparatus of the knee is the last and least frequent form of internal derangement. It may take the form of fracture of the tibial spine (which projects from the center of the head of the tibia into the intercondylar notch) and the fibrous repair may restore integrity of the crucial ligaments. The spine may not unite, but remain loose in the center of the joint causing locking symptoms. This is diagnosable by X-ray and removal of the bone is not difficult. One or both of the crucial ligaments may be ruptured, with ensuing great laxity of the joint in an anteroposterior direction, resulting in weakness and instability. In most instances fixation followed by the use of a competent brace for a considerable period will be followed by recovery of stability. For persisting dis-

ability Hey Groves devised an operative reconstruction in which strips of fascia lata or tendon are passed through decussating tunnels drilled across the joint through femur and tibia, and he has reported successful results.

Lateral dislocations of the knee, that is, of the tibia on the femur, cannot occur except as a result of one or the other of the above mentioned injuries to the ligamentous apparatus, which in itself makes the reduction of the dislocation easy and constitutes eventually the problem of the lesions discussed.

PATELLA FRACTURES

There remain for description in knee joint injuries the fractures, which will be limited here to those of the patella and of the head of the tibia. Fracture of the patella is a quite frequent joint injury, and one not necessitating the residual disability which is still too frequently seen. It may be discussed under two heads: first acute, and second ununited fractures. In a fresh fracture of the patella with not over $\frac{1}{4}$ inch displacement alone do we find a place for non-operative treatment of this injury. Fixation in an adequately long cast for four weeks without weight bearing, followed by walking for two more weeks in plaster or a rigid brace, and for two more months in a brace with a lock joint, is the treatment of choice. Fibrous union only will prevail for some time. In fractures with greater degrees of separation of the fragments the injury has involved extensive lacerations of the capsule and lateral expansion of the quadriceps tendon, and a weak fibrous union with likelihood of subsequent giving way, or the restriction of motion from adhesions, is almost certain to follow any treatment save open reduction.

Open reduction should follow as soon after injury as possible, and not, as sometimes recommended, after a waiting period in which joint adhesions will get under way. In a considerable series the writer has not failed to get bony union and from 90 degrees to normal motion as a result of operative treatment. It is my preference not to do a wiring operation, but to do a careful layer repair of the lateral tears, oppose the fragments by periosteal sutures, and reinforce by heavy sutures running from quadriceps tendon over the bone to the patella tendon below. In comminuted frac-

tures a circumferential suture of kangaroo tendon is sometimes of assistance. Plaster fixation follows for two weeks, when the cast is bivalved and massage started with active "setting" of the quadriceps and "shrugging" of the patella done in the cast. At the end of a month walking is begun in a long brace with lock joint and an adjustable stop which permits increasing the range of motion for the sitting position at a rate of about 10 degrees each week. The brace is discontinued at the end of 2 to 3 months, depending on the rate of bony union as shown by X-ray, physiotherapy being continued during this period.

Ununited patella fractures present a more difficult problem, of course operative. The fragments must be freshened and brought into apposition and adhesions freed. Some form of more or less permanent internal fixation is indicated in a fracture of any standing, as bony union will be slow. Albee has advocated an inlay bone graft cut upon a double triangular pattern. A case in the writer's practice was worked out somewhat differently. A rather comminuted fracture had resulted under non-operative treatment in persisting separation, fibrous union and marked limitation of motion, complicated a year later and 10 days before coming under my care by a fall and very extensive separation. At operation the widely separated fragments were gradually brought together, stretching down the contracted quadriceps with the help of a screw clamp for the patella originally advocated for external fixation. The adhesions having been freed until full motion could be obtained, the fresh lacerations in the lateral capsule were carefully repaired and sutures placed in periosteum and fascia across the fracture line. Inasmuch as bony union would probably be slow and as early motion was desired, some means of maintaining living continuity of the extensor apparatus seemed indicated. Accordingly, the stout heavy tendon of the peroneus longus muscle was removed in its whole length, the proximal end the stump being sutured into the peroneus brevis. This free tendon graft was passed through the patella tendon, each end brought up over the surface of the patella, passed again through the quadriceps tendon and sutured together after emerging, enough tension being applied to hold the fragments together while the knee was flexed. Mas-

sage was started on this case in one week and motion in two, with walking in a brace soon after. Motion was nearly complete in a few months, and although continuity of extensor control prevailed through the tendon graft independent of bony union, the latter eventually was complete and function became entirely normal. By this technic the potential irritative dangers of wiring were avoided, the procedure was simple and easily carried out, and I think may well be recommended in this type of case.

TUBEROSITY FRACTURES

There is a type of fracture of the upper end of the tibia which involves the integrity of the knee joint and frequently results in great disability. It is sometimes called the fender fracture or bumper fracture from the frequency of its production by this form of injury. In industry similar fractures are common from violence received on the side of the knee while it is rigid under body weight or lifting effort. In the most common and simplest form it results in an oblique line of fracture running nearly in a transverse plane from the side of one tibial tuberosity inward and upward to the middle of the articular surface near the tibial spine. The lateral stress causes an impaction of the cancellous bone and the secondary force through the femoral condyle drives the top of the tuberosity downward and away from the center. Effusion and hemarthrosis of the joint follows and without X-ray the injury may be mistaken for an internal derangement of the knee, which as a matter of fact it is in a way. A persisting varus or valgus deformity will suggest the site of the displacement, but the effusion will in a few days produce enough stretching or relaxation of the collateral ligament to permit bringing the legs into alignment, so that X-rays must be obtained and studied carefully. It is absolutely essential that any but the slightest degree of downward and outward displacement of the joint surface be corrected, for deformity will otherwise be progressive and disabling.

When the impaction is not too solid it is possible by reverse manipulation through the pull of the corresponding collateral ligament to lift the depressed tuberosity up into alignment. The limb must then be immobilized in full extension to maintain this pull and in apparent over-correction. Lat-

eral displacement may be corrected by moulding with the hands or by a padded mallet blow on the side of the tuberosity. If manipulation is not successful, open operation is indicated to pry up the fragment, and in this event it is better to hold it wedged up by a block of bone removed from the tibial crest.

In a more severe form the fracture may traverse both tuberosities and enter the joint, the fracture line forming an inverted T or Y, with the body of the tibia wedging the two fragments apart. Closed reduction even here may be successful, the tibial neck being pulled down by strong traction and the tuberosities moulded back together by a weaving manipulation with simultaneous side pressure. Maintenance of the reduction requires continued skeletal traction and lateral pressure by screw pads. Open reduction and internal fixation may be required, however, but the ordinary plate with short screws gives little security in the soft cancellous bone of the tuberosities and spreading of them may not be avoidable save with a long transfixion bolt.

If not compound and if the deformity is reducible, fractures of the tibial tuberosity may still permit recovery with preservation of good joint function. Organization of hemorrhage and exudate may result in fibrous adhesions around the alar ligaments and infra-patella fat pad, but these will either stretch gradually with physiotherapy or can be freed by brisement forc . However, in the convalescent care it must be remembered that union of bone fragments is fibrous only for several months and that unprotected weight bearing may bring about recurrence of deformity. Motion should be started in 4 to 6 weeks, but lateral stress must be prevented even when weight bearing is not allowed by a carefully fitted corrective brace. The design of the latter is particularly important if varus deformity has to be controlled, and, save for the long slender limb, it must include a pelvic band. A properly designed and fitted brace will enable weight bearing to be transmitted through one side of the joint only. Active function with protection will prove the most potent stimulant to complete repair.

SUMMARY

In the foregoing pages the more common disturbances of knee joint function arising

on a traumatic basis, and the program of management of each has been outlined. While little has been introduced in the way of original contribution to the subject, a stimulation for this type of presentation has arisen out of a conviction that the outstanding methods and the systematic approach to the problem that are utilized with

such gratifying results in many quarters should become more universally applied. As a final thought, the writer would like to stress the stimulation of recovery that arises from properly regulated functional activity, and the rôle of physiotherapy (which term in this connection does not mean lights or electricity) therein.

SICKLE CELL ANEMIA IN A SIX MONTHS OLD COLORED FEMALE INFANT

REPORT OF A CASE

HIRA E. BRANCH, M.D.
DETROIT, MICHIGAN

On July 7, 1932, D. S., a colored female infant of six months, was brought into the hospital because of a high fever and a bad cold. The present illness was of one week duration and began with hoarseness and a bad cough. The baby refused to eat, did not sleep well, was very hoarse, and had a fever which alarmed the mother. The history was essentially normal. The baby was a full term child, normal delivery, and weighed about nine pounds at birth. She was placed on a bottle at birth and received cow's milk, and also tomato juice, orange juice, and cod liver oil. The development was normal; she sat up at five months and had two teeth when admitted to the hospital at six months.

Physical examination was normal except for paleness of the mucous membranes and nail beds; also an injected nasopharynx was present. There was some ricketic beading to the rib ends.

Blood examination was the interesting point of the whole case. Hemoglobin was 8.2 gms. (14.5 gms. being 100 per cent). Red blood cells were 1,900,000 per cubic centimeter. White blood cells were 34,900, of which 50 per cent were polymorphonuclears, 41 per cent were small lymphocytes, and 9 per cent large lymphocytes. There were a great many normoblasts, 56 per cent, 3 per cent megaloblasts, 2 per cent myelocytes. There was moderate polychromatophilia, marked poikilocytosis and anisocytosis, and the irregular arrangement of the hemoglobin caused a fresh drop of blood to be examined, which showed no sickling of the red blood cells for about seven hours. However, soon after this time a few sickle cells appeared, and in twenty-four hours most of the red blood cells showed the sickling phenomenon. There

was no doubt of the diagnosis of sickle cell anemia in this case, at The Children's Hospital of Michigan where the child was brought for acute nasopharyngitis. This latter condition, nasopharyngitis, cleared up very rapidly so the patient was discharged just one week after admission, on July 27, 1932. The patient was to be followed in the outpatient department of the Children's Hospital of Michigan.

PRODUCTION OF GASTRIC AND DUODENAL ULCERS IN EXPERIMENTAL CINCHOPHEN POISONING: PRELIMINARY REPORT

F. H. Van Wagoner and T. P. Churchill, Chicago, observed that in an experimental series of twenty-four dogs, nineteen, or 80 per cent, showed lesions which corresponded in location and in gross and microscopic appearance to ulcers of the stomach and duodenum in human patients. The animals were divided into four groups. Of the five dogs in group 1, receiving twenty-seven times the normal human dose of cinchophen per kilogram of body weight, ulcers developed in three. The dogs in group 2 received ten times the normal human dose and in all ulcers developed. The dogs in group 3 were given five times the human dose and in all ulcers developed. Of seven dogs in group 4 that received the usual human dose, ulcers developed in four. In most of the animals the ulcers were multiple. There were thirty-four ulcers in the nineteen dogs. All the dogs early showed a marked anorexia and all of those with ulcers had, on repeated occasions, the typical

tarry stools of gastric and duodenal hemorrhage. The five dogs in this series in which ulcers did not develop took only a few doses of the drug at long and irregular intervals. The occurrence of gastric and duodenal ulcers in dogs receiving daily doses of cinchophen is probably a species peculiarity. At least we have not found in the meager autopsy records of alleged fatal cinchophen poisoning in human cases reported in the literature, a single instance of ulcer of the stomach or duodenum. However, in only about one-fourth of the reported human cases is the stomach or duodenum mentioned in the autopsy protocol. The daily administration to dogs of from five to ten times the normal human dose of cinchophen per kilogram of body weight will induce typical gastric or duodenal (peptic) ulcers in approximately 100 per cent of the animals in ten days or more. The authors believe that their method is the only one thus far described by which these lesions can be produced with any degree of constancy without operative procedures that upset the normal anatomic and functional interrelationships of the stomach and intestine.—*Journal A. M. A.*

MICHIGAN DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Dr.P.H.

LANSING, MICHIGAN

KAHN REPORTS

In conformity with the recommendations of the Second Serological Conference held at Copenhagen, the Michigan Department of Health after February 1, 1933, will report the results of the Kahn test as Positive, Negative, or Doubtful. The pseudo-quantitative reports of +, ++, +++, +++++, and \pm will no longer be made.

This change in administrative practice has come about after much study, long continued investigation and numerous conferences, and it does not appear that the actual information conveyed to the physician as a result of serological study of a serum will be materially altered. The present method, giving, as it does, apparently quantitative results, is at times misleading and is of little real value to the physician under the conditions prevailing where the physician and the laboratory have so little contact. It is not the intention of the Michigan Department of Health to imply that quantitative tests have no value. Such tests when there is close coöperation between the physician, the patient and the clinical pathologist may be most helpful. It is felt, however, that a report of positive, negative or doubtful will be as valuable as the reports at present given. This is shown by the following summary of results obtained on 10,000 serums.

PRESENT METHOD OF REPORTING

	++++	+++	++	+	\pm	-	Total
No.	1017	208	104	122	92	8457	10,000
%	10	2	1	1.2	.9	84.5	

A SUGGESTED NEW METHOD OF REPORTING

	Summation of			Total
	4.5 plus signs or more	2-4 plus signs	Less than 2 plus signs	
	Positive	Doubtful	Negative	
No.	1354	189	8457	10,000
%	13.25	2.15	84.5	

According to these tables, results of +++++, +++, and ++ would be reported as positive, + and \pm as doubtful. The difference is obviously insignificant.

C. C. Y.

PREPARATION OF CONVALESCENT SERA

The State Council of Health at its meet-

ing November 11, 1932, adopted regulations for the preparation of convalescent sera for distribution and sale in Michigan. This became necessary because a number of private and commercial laboratories are distributing such sera, not all of which are prepared according to standard methods.

The regulations of the State Council provide that:

"Convalescent sera shall contain a preservative such as 1:10,000 methiolate or mercuraphen and must have passed sterility tests and safety tests as outlined below prior to release for distribution. The product shall be a clear solution without precipitated materials, and without objectionable odors of decomposition. Only donors giving a negative Kahn or Wassermann test shall be used.

"After a lot of convalescent serum has been filled into the final containers, 3.0 per cent of the vials filled (not less than three vials nor more than ten) shall be picked at random and used for sterility tests."

Regulations further specify the details of inoculation of fermentation tubes in making these sterility tests. Safety tests must also be carried out consisting of the intra-peritoneal injection of guinea pigs and their observation. Each lot of convalescent sera must be given a lot number and this must appear on the protocols of all tests. Protocols shall be furnished according to the specifications to the Michigan Department of Health Bureau of Laboratories.

Recommendations are made concerning the collecting of blood and its processing and the keeping of records of the blood of all donors.

A formula for the manufacture of the sterility test broth is suggested and if this formula is not used, such formula as is used must be approved by the Michigan Department of Health.

The use of convalescent sera which have been produced under any other than exacting conditions is so fraught with danger that these regulations became necessary to safeguard the physician and his patient. A copy of the complete regulations will be sent by the Michigan Department of Health to anyone interested.

COMMUNICABLE DISEASE REVIEW

There is little change in the trend of communicable disease incidence since our last report. Typhoid fever continues above the norm for the last few years. Cases are well scattered throughout the state and while there have been a number of small outbreaks, there have occurred no outbreaks of any magnitude.

Diphtheria shows no deviation from its continuous and sharp decline. Every month establishes a new low incidence for that month.

Scarlet fever continues on its increase in number of cases reported. The year will close with a higher number of cases than has occurred for several years and indications now are that it will be the highest on record. The fatality rate is low.

Smallpox has been practically non-existent in the state, there being one case reported in September and one in October for the entire state. During November there was a small outbreak in Newaygo County.

Poliomyelitis has been lower than the average throughout the entire "poliomyelitis season." During this season, July-August-September-October, there were 74 cases reported. During the outbreak of 1931, there were reported for the same period 1,054 cases. Very little convalescent poliomyelitis serum has been supplied by the Michigan Commission on Infantile Paralysis. Few of the cases called physicians early enough to justify the use of the serum, which was available at all times. A summary of the consultants' reports and the cases in which serum was used, is being compiled and a copy of this will be supplied to any physician on request to the Michigan Commission on Infantile Paralysis, State Office Building, Lansing.

ISABELLA COUNTY HEALTH UNIT

The Isabella County Health Unit was overwhelmingly approved by the voters in that county on November 8. Never before in Michigan, and seldom, if ever, elsewhere, has an organized full time county health service been placed before the voters for their approval. The overwhelming vote puts the stamp of approval of the people of the county on the work done by the county health unit. There are 28 other counties in the state now receiving similar service. None of these counties have been dropped by the wayside during the time of cut ap-

propriations by the boards of supervisors. There have been reductions in budgets and salaries, but in no county has the work been materially affected.

Doctor T. E. Gibson is the Acting Director of the Isabella County Unit. Doctor M. B. Beckett, who has been Director of the Unit since May 15, 1931, has been granted leave of absence to take advantage of a Fellowship in Public Health at Johns Hopkins University. The Isabella Unit is supported by the county, city of Mount Pleasant, United States Public Health Service, Children's Fund of Michigan, and the Rockefeller Foundation. Miss Lillian Upham is the Children's Fund nurse working in the County with the Unit. Miss Charlotte Young is the Unit's nurse for Mount Pleasant. Mrs. Neva Priest is the clerk.

C. D. B.

CHILD HYGIENE

Dr. Ida Alexander has completed her work with the series of women's classes in Pontiac and the Hartland Area. During the three weeks that Dr. Alexander spent with the classes there was an attendance of 1,022. Bertha Wellington is completing the classwork, giving talks on nutrition, with special emphasis upon nourishing foods at low cost.

A five weeks' series of women's classes has been begun by Dr. Alexander in Ionia County.

Child care classes are being conducted in Presque Isle County by Bertha Cooper, R.N., and in Cheboygan County by Deane Rinck, R.N. Both series of classes will terminate early in December. The same type of classwork is being given to girls in Oceana County by Caroline Hollenbeck, R.N., and in Huron County by Julia Clock, R.N.

A prenatal nursing program is being carried on in Allegan County by Martha Giltner, R.N., in connection with the Allegan County Health Department. This program will end in January and Miss Giltner will go to Midland County to work with prospective mothers in that county.

Dr. Edna Walck has completed a three weeks' series of county normal training class lectures on Health Inspection of School Children and has begun a four weeks' series of women's classes in Kalamazoo County.

L. R. S.

REPORT OF THE COMMITTEE ON COST OF MEDICAL CARE

[The Executive Committee has directed that the following synopsis of this report as published in the *Journal of the American Medical Association* be reprinted for the information and benefit of our members. It was also directed that the "costs of illness" as printed in the *Bulletin of the Wayne County Medical Society* be reprinted as being expressive of the attitude and opinions of the Executive Committee. It is recommended that County Societies, by suitable action, record endorsement of the Minority Report.—F.C.W.]

COSTS OF ILLNESS, AND DETROIT
PHYSICIANS

After a study of the final report of the Committee on the Costs of Medical Care, the Press Relations Committee of the Wayne County Medical Society submitted the following statement to the newspapers at Detroit, on November 29, 1932.

The medical profession will always favor any plan which will *improve public health*. As evidence of this, witness the spontaneous effort on the part of medical societies to calmly and objectively study all problems concerned with health insurance. For some time, the medical profession, looked upon by business men as a barometer that forecasts approaching storms, has been compiling data and studying all social experiments in this country. Michigan physicians have been busy at this work for over a year and hope to present their findings within a few months.

As far as the individual practitioner of medicine is concerned, a plan of health insurance offers him a definite, assured income in contrast to his very precarious and impecunious position in the economic world of today. If he had a regular income and many of his present responsibilities were removed, he would be freed of a great many worries. However, the physician conscientiously objects to hurried acceptance, in an emergency, of what may appear to be a panacea.

As examples of precipitous and revolutionary actions, let us look at the debacle of the Eighteenth Amendment, and also the extravagant legislation covering benefits to veterans with non-service connected disabilities. By rapid and immature legislative activity, this country was placed in a position from which it will take years to extricate itself. We cannot afford to make another such costly mistake.

Let us look at some of the problems of health insurance: If compulsory health insurance programs are established here, how is the matter of finance to be handled? Ex-

cluding capital charges, the Committee on the Costs of Medical Care estimates it will cost from \$20.00 to \$40.00 per capita per annum. Obviously, the recommendations of the Committee were made on the premise that a great plurality of the population was employed. What provision is there made, then, for a time like the present when unemployment is general? Is it anticipated that, with the present trend of calling on the government for an increasing variety of gratuities, the insurance premiums of from \$20.00 to \$40.00 per capita, exclusive of capital costs, are to be borrowed from the government? Are the capital changes also to be paid by the government? Are we to assume that in all periods of depression, the government is to carry the full health burden for the unemployed. If so, would not the United States government be placing itself in a position similar to that which has brought havoc to the English treasury? With the Unemployment Fund in England already indebted to the government to the extent of \$1,250,000,000 and steadily increasing, it can readily be seen how America, with a population approximately three times that of the British Isles, could incur an indebtedness of nearly \$4,000,000,000 with social insurance established along similar lines. Four billion dollars now runs our entire federal government. Take on social insurance and you *double* your present high taxes.

HOW THE PLAN WOULD AFFECT DETROIT

So far as Detroit is concerned, if, during the past three years, physicians had been paid for services rendered to unemployed and temporarily submerged members of society, the welfare budget would have been swelled to astounding proportions, placing it far beyond the control of our civic leaders. What would have happened to our relief program in this city if the medical profession had not come to the fore and rendered generous aid without cost?

With the great majority of Detroit physicians busy in insurance practice, who would perform all the free work in the clinics? As the problem of unemployment is reviewed, it becomes very evident, particularly here in Detroit, that we will always have a large group of unemployed which will increase in direct ratio to the increase of machines that take the place of man power. What provision is being made for this particular group? Are we to assume that the government is to carry its health insurance burden constantly, year after year? If that is to be the case, then we may assume: First that there must be an immediate increase in taxation several times that which we are now paying; second, that this may be construed as the entering wedge of complete socialism. What would prevent the plan from being broadened to include the legal and engineering professions, banking, shipbuilding, manufacturing, power production, lithographing, retail selling, and the operation of laundries, restaurants, and scores of other enterprises?

With the public demand that the Committee's report may create, it is possible that a great many mushroom medical groups will suddenly spring up. In their hurry to meet the public's demands, these groups of physicians may, in some instances, render a service not up to the present high standard. They may even go so far as to offer hospital service that would be unsupervised to a great extent.

For a number of years and in an evolutionary (and not a revolutionary) way, the medical profession has been attempting to establish an efficient method of handling medical service, broadly based on lines similar to those recommended by the Committee on the Costs of Medical Care. These principles have been well presented in the Minority Report, signed by nine members.

The profession feels that it would be wise not to jump into this thing too hastily. As far as the doctor is concerned, the plans recommended by the Committee would be beneficial, from a selfish point of view. As far as the public is concerned, such plans hurriedly conceived and put into operation cannot maintain the human attributes and personal interest which are the outstanding characteristics of our present day medical practice.

FINAL REPORT OF COMMITTEE ON THE COSTS OF MEDICAL CARE

Five years of work by the fifty members and research staff of the Committee on the Costs of Medical Care have culminated in this final report, entitled "Medical Care for the American People." The majority report was favored by the following:

Private Practice.—Lewellys F. Barker, M.D.; Walter P. Bowers, M.D.; J. Shelton Horsley, M.D.; Stewart R. Roberts, M.D.; Richard M. Smith, M.D.; Walter R. Steiner, M.D., and Rollin T. Woodyatt, M.D.

Institutions and Special Interests.—W. Irving Clark, M.D.; William Darrach, M.D.; Louis L. Dublin, Ph.D.; Elizabeth Fox, R.N.; Ambrose Hunsberger, Phar.M.; Alfred Owre, D.M.D., M.D.; W. S. Rankin, M.D.; Mary M. Roberts, R.N.; and Winford H. Smith, M.D.

Public Health.—George H. Bigelow, M.D.; Herman N. Bundesen, M.D.; Haven Emerson, M.D.; John Sundwall, M.D., and C. E. A. Winslow, Dr.P.H.

Social Sciences.—Michael M. Davis, Ph.D.; William T. Foster, Ph.D.; Wesley C. Mitchell, Ph.D.; William F. Ogburn, Ph.D., and Henry C. Taylor, Ph.D.

The Public.—Winthrop W. Aldrich; Morris L. Cooke, D.Sc.; Mrs. William Kinnicutt Draper; Homer Folks, LL.D.; John P. Frey; Mrs. Walter McNab Miller; William J. Schieffelin, Ph.D.; Amelia Sears, and Ray Lyman Wilbur, M.D.

A summary of the majority report follows:

I

"The Committee recommends that medical service, both preventive and therapeutic, should be furnished largely by organized groups of physicians; dentists, nurses, pharmacists and other associated personnel. Such groups should be organized, preferably around a hospital, for rendering complete home, office and hospital care. The form of organization should encourage the maintenance of high standards and the development or preservation of a personal relation between patient and physician.

II

"The Committee recommends the extension of all basic public health services—whether provided by governmental or nongovernmental agencies—so that they will be available to the entire population according to its needs. This extension requires primarily increased financial support for official health departments and full-time trained health officers and members of their staffs whose tenure is dependent only on professional and administrative competence.

III

"The Committee recommends that the costs of medical care be placed on a group payment basis, through the use of insurance, through the use of taxation, or through the use of both these methods. This is not meant to preclude the continuation of medical service provided on an individual fee basis for those who prefer the present method. Cash benefits, i.e., compensation for wage-loss due to illness, if and when provided, should be separate and distinct from medical services.

IV

"The Committee recommends that the study, evaluation and coördination of medical service be considered important functions for every state and local community, that agencies be formed to exercise these functions, and that the coördination of rural with urban services receive special attention.

"The Committee makes the following recommendations in the field of professional education: (A)

That the training of physicians give increasing emphasis to the teaching of health and the prevention of disease; that more effective efforts be made to provide trained health officers; that the social aspects of medical practice be given greater attention; that specialties be restricted to those specially qualified; and that postgraduate educational opportunities be increased; (B) that dental students be given a broader educational background; (C) that pharmaceutical education place more stress on the pharmacist's responsibilities and opportunities for public service; (D) that nursing education be thoroughly remolded to provide well educated and well qualified registered nurses; (E) that less thoroughly trained but competent nursing aides and attendants be provided; (F) that adequate training for nurse-midwives be provided, and (G) that opportunities be offered for the systematic training of hospital and clinic administrators."

The first chapter surveys "The Present Status of Medical Care." It reports that 177,000 physicians and dentists, with some 900,000 others at an annual expense of \$3,647,000,000, so distribute their services that those in the lower income groups, while suffering as much or more sickness, receive far less medical service than those with a greater income.

There is a lack of preventive health care; indeed, "niggardly appropriations for public health work." The burden of sickness cannot be measured by averages, because of the extreme unevenness with which it is distributed. Fifty per cent of the families in the United States have incomes of less than \$2,000, which means that "even less-than-average charges for medical service, therefore, are more than many of our families can bear."

One conclusion reads: "*Certainly no solution to the problems of medical costs can be reached through a reduction in the average of professional incomes*" (italics in original). This average is none too high now to attract a high type of practitioner and permit progress through graduate training and study.

The Committee attempts from the report of some of these investigations to calculate the cost of complete medical care and concludes that "all needed medical care of the kind which people customarily purchase individually could be provided in urban regions at least, at a cost, excluding capital charges, of \$20 to \$40 per capita per annum."

The second chapter discusses "The Essentials of a Satisfactory Medical Program." Six basic essentials are enumerated:

"1. The plan must safeguard the quality of medical service and preserve the essential personal relationship between patient and physician.

"2. It must provide for the future development of preventive and curative services in such kinds and amounts as will meet the needs of substantially all the people and not merely their present effective demands.

"3. It must provide services on financial terms which the people can and will meet, without undue hardship, through either individual or collective resources.

"4. There should be a full application of existing knowledge to the prevention of disease, so that all medical practice will be permeated with the concept of prevention. The program must include, therefore, not only medical care of the individual and the family but also a well organized and adequately supported public health program.¹

"5. The basic plan should include provisions for assisting and guiding patients in the selection of

competent practitioners and suitable facilities for medical care.

"6. Adequate and assured payment must be provided to the individuals and agencies which furnish the care."

Having set up these standards, the Majority Report selects three lines of approach to the solution of its problem:

"(a) The development of types of organized or group practice that will more effectively and economically meet the community's medical needs.

"(b) The distribution, over a period of time and over a group of families or individuals, of the costs of service.

"(c) Provision for the planning and coördination, on a local and regional basis, of all health and medical services."

It is evident that the program of the Majority Report centers around "provision of service through organized groups." The groups studied on which conclusions are based covered only fifty such groups; conclusions as to the financial operation of such clinics and especially as to their net and gross income are based on the information furnished by twenty-seven such clinics.

The Majority Report sets up "standards" for group practice and among these emphasizes the statement that "*lay groups organized for profit have no legitimate place in the provision of this vital public service*" (italics in original). This standard, the Committee seems to fail to note, would eliminate many of the examples of group practice on which it depends for the argument previously mentioned leading to the estimate of annual cost.

"Inevitably the Committee has been led to the conclusion that the costs of medical care should be distributed over groups of people and over periods of time." This leads to the adoption of insurance as a major recommendation. The participation of insurance companies is rejected and taxation accepted only in a secondary form. Having eliminated these, the Majority Report is brought to the somewhat indefinite conclusions that "there should, therefore, be an agency in each community through which the lay and the professional groups concerned in providing and financing medical services could consult, plan and act in behalf of the best provision of medical resources which the community can afford." The character of this "agency" remains indefinite throughout the report.

Chapter three sets up "An Ultimate Objective in the Organization of Medicine." "The keystone of the concept of a satisfactory medical service for the nation is the development of one or more non-profit 'community medical centers' in every city of approximately 15,000 population or more." Then follows a description of such an imaginary center. The Majority Report passes lightly over such questions as the possibility of the redistribution of great medical centers that have been established in most large cities for educational, political, financial or other purposes which render them ill adjusted to fit into such a program.

It assumes that existing hospital organizations can be so transformed but offers little information as to the methods by which this change may be brought about. There is much talk of coördination and control of services" but there is no definite statement as to what is to constitute this important factor in the program.

Chapter four considers "Plans and Experiments Now Under Way" and lists twenty-five such experiments. Four of these are "under professional sponsorship"; four "under consumer sponsorship"; thirteen are listed as "under community sponsorship with professional participation"; one "under joint

¹The term "public health program" is meant to include the work of the official health departments and of voluntary health agencies.

sponsorship of professional and consumer groups," and three "under commercial sponsorship." All of these are treated without the specific criticisms necessary to inspection of the foundation stones on which the structure of the national medical service is to be erected.

The Committee concludes that:

"These twenty-five types of development in the United States and the many developments abroad show a ferment at work in medical practice which contains great possibilities for good and evil. The Committee is aware of the fact that some of the plans are mere attempts to capitalize for private gain the people's need for better medical service. It is equally aware of the dangers inherent in other plans. Each should be viewed as an experiment and subjected to the careful evaluation that is given in a scientific laboratory. Some of them appear to the Committee to be very promising."

The fifth chapter includes "The Recommendation of the Committee" previously here quoted. The somewhat vague character of the report is excused by the statement that "the Committee believes that its obligations require it to think ahead for twenty or thirty years, as well as for the next five or ten years and to present distant as well as immediate goals."

The Committee's first recommendation that medical service "should be furnished largely by organized groups of physicians, dentists" and so on does not take account of the fact that these groups are already professionally organized in their own associations. Indeed, the existence of these professional associations is almost entirely ignored in the Majority Report.

"The Committee's most fundamental specific proposal is the development of suitable hospitals into comprehensive community medical centers."

Industrial medical service is cited as another step toward the realization of this recommendation, and the Majority Report suggests "that free choice of practitioners should be allowed insofar as practicable."

University medical service is also to be fitted into this scheme. "In 'College towns' it may frequently be feasible to expand the university medical service into a community medical center which serves townspeople as well as students."

The Majority Report recognizes the necessity of measures to maintain the quality of medical service in groups; no recommendations are made concerning relationships with professional associations, the most important bodies for maintaining standards.

The recommendation which will undoubtedly attract the most attention is that "the costs of medical care be placed on a group payment basis, through the use of insurance." The discussion is extremely indefinite. The comments interspersed clearly reflect sharp divisions of opinion in the Committee.

It is suggested that "a state medical society might initiate and standardize the organization of group practice in local areas and serve as a negotiating or mediating body in making the arrangements for group payment." On the whole, however, the Majority Report seems to incline to a voluntary insurance scheme with subsidies from taxation.

There is also the conclusion that making "individual practice and not group practice the logical foundation of the whole system . . . has been one of the chief disadvantages which European countries have faced under compulsory insurance." Examples or evidence in support of this conclusion are not made available.

The Majority Report persistently emphasizes the importance of groups; it looks on insurance "as the most effective possible stimulant to the formation of such groups." It is hard to determine whether the

groups are to be the basis or the objective of the program.

Confronted with the problem of the "control of competition," which has hitherto evidently produced deterioration in most of the schemes of contract practice which are discussed, the Majority Report proposes the following devices for its control:

"(a) Provision of medical service in increasing proportions by organized non-profit groups with community backing and control.

"(b) State regulation of the finances to assure actuarial soundness.

"(c) The formulation of general standards and policies, the regulation of charges, and the arbitration of difficulties by the state medical and dental societies or by an officially appointed medical board nominated in large part by the societies."

The Majority Report urges a study by professional groups with lay participants as a preliminary to the installation of any program.

In the final chapter, "The Challenge of the Future," appears recognition of the place of such professional associations. The report says:

"The coöperation of the professional groups in community or state leadership is essential. Their stake in these issues is very large; their interest is continuing. They should instigate as well as guide. The crucial point in the generalship of the forces at work is, perhaps, the development of a proper relation between the professional and the lay groups. The public should recognize the central place of the professional groups in determining standards and methods. The professions should recognize their ultimate responsibilities to the public. The control of undesirable commercial enterprises in this field will depend largely on the watchfulness of the professional bodies, on their ability to enlist lay coöperation, and on the development of sound and successfully operating non-commercial plans.

"Continued study of the complex problems of medical economics is of the first importance. The Committee's investigations have opened a way. Fortunately, professional societies are establishing bureaus and committees on medical economics. Because a university has the unique advantage of having both medical and social scientists in one organization, the Committee has formally recommended to the universities of the country that they conduct research in this field."

MINORITY REPORTS

Two minority reports and two statements constitute the views of those members of the committee who found themselves in conflict with the general tone or trend of the majority report.

FIRST MINORITY REPORT

The first minority report, which was signed by A. A. Christie, M.D., George E. Follansbee, M.D., M. L. Harris, M.D., Kirby S. Howlett, M.D., A. C. Morgan, M.D., Alphonse M. Schwitalla, Ph.D., N. B. Van Etten, M.D., Olin West, M.D., and Robert Wilson, M.D., draws attention to the failure of the Committee to show by facts that "organization" can accomplish what is claimed for it in the majority report. There is noth-

ing in the experience of the medical profession to show that the "Community Medical Center" is a workable scheme or that it would not contain evils of its own which might be worse than the evils it is supposed to alleviate. This Medical Center Plan is suggestive of the great mergers in industry in which mass production and centralized control are the principal features. It apparently disregards the fundamentals which make medicine a personal service and which require that the individual patient and not diseases or economic classes or groups be the object of medical care.

The objections to the Medical Center Plan are summarized as follows:

1. It would establish a medical hierarchy in every community to dictate who might practice medicine there.

2. It would be impossible to prevent competition among the many such centers necessary for large cities; cost would inevitably be increased by the organization necessary to assign patients to the various centers. This would add to the evils of medical dictatorship those of a new bureau in the local government with its attendant cost.

3. Continuous personal relationship of physician and patient would be difficult if not impossible under such conditions.

In the opinion of this minority group, the question of "Industrial Medical Service" has not been adequately or fairly dealt with in the majority report. For each of the favorable reports published (publications Nos. 5, 18 and 20) many instances could be cited wherein the results of industrial medical services have been exceedingly unfavorable. It is pointed out that in industrial medical services, mutual benefit associations, so-called health and hospital associations, and other forms of contract practice, no means have been found to prevent destructive competition between individuals or groups concerned with these movements. The studies published by the Committee show only the favorable aspects. They were selected because they were considered the most favorable examples of this type of practice in the United States. For each of these plans a score of the opposite kind can be found.

Utilization of subsidiary personnel is nothing new in medical practice. Already there is constant temptation in many fields to permit technicians to perform duties entirely unjustified by their knowledge and

training. The minority expresses a word of caution relative to the dangers involved in permitting non-medical technicians to assume the duties which only physicians should undertake.

The Committee's first recommendation that medical service "should be furnished largely by organized groups of physicians, dentists" and so on is apparently predicated on the Committee's study on "Private Group Clinics." This minority group believes that the establishment of such clinics is in line of progress when they are a natural outgrowth of local conditions, but the studies published by the Committee, in the opinion of the minority, were far too few in number to constitute a safe base on which to erect so large and revolutionary a structure as is proposed. The majority report fails to consider the fact that multiplication of clinics or groups in large communities results in duplication of expensive equipment far beyond the needs of the community. Such a multiplication of medical facilities, instead of reducing overhead and the costs of medical care to the community, adds to this cost through the duplication of plants. It is significant to note that the overhead in private medical practice averages only about 2 per cent higher than for medical groups in the lower brackets of gross income. As the gross income rises, the ratio of overhead becomes progressively less significant.

Other disadvantages of group practice are: restriction of freedom of action in respect to vacations, study, travel, attendance on scientific meetings and even publication of medical articles to all members except the heads of the group; comparatively static income of members of a group except that of the owner or owners; salary cuts, then discharge of employees to reduce overhead in times of depression; disruption of groups through death or disability of some able man or men around whom the group has been built, and the difficulty with which physicians are able to find employment in another group or are able to enter private practice when a group closes.

In spite of the extensive data available on the insurance systems of Europe and the evidence which can be produced to show that voluntary health insurance schemes have everywhere failed, the majority of the Committee makes the definite recommendation that this country adopt the thoroughly

discredited method of voluntary insurance. A system of voluntary health insurance tied to the visionary medical center plan, which is offered as the "keystone" of all medical service, would plunge the medical profession into similar or more difficult problems than have been experienced by the European profession in its struggle against the various European insurance schemes. In the United States, contract practice is essentially health insurance and has already given rise to destructive competition among professional groups, inferior medical service, loss of personal relationship of patient and physician, and demoralization of the profession. It is clear that all such schemes are contrary to sound public policy and that the shortest road to commercialism of the practice of medicine is through the supposedly rosy path of insurance.

The objections to compulsory health insurance are almost as compelling to this minority group as are those to voluntary insurance. Proof of the evils of the compulsory system is at hand in our own experience in this country with the only compulsory system with which we have yet had to deal, workmen's compensation insurance. Under workmen's compensation, groups are soliciting contracts, often through paid lay promoters; laymen are organizing clinics and hiring doctors to do the work; standards of practice are being lowered; able physicians outside the groups are being pushed to the wall; the patient is forced by his employer to go to a certain clinic, and the physician is largely under the control of the insurance companies. These are not visionary fears of what may happen but a true picture of widespread evils attending insurance practice. No better example should be needed of what must happen to medical care if compulsory insurance is extended to families.

The total cost of medical care is usually increased when it is paid for through insurance, because the cost of operation of the insurance plan must be added to the cost of medical care and the number of persons sick and the number of days' sickness per capita always increase under any insurance system. The Majority Report registers approval of insurance but disapproves of insurance companies. The minority group agrees with the principle that, in any contract practice plan involving an insurance principle, this prin-

ciple should be applied through a nonprofit organization. The minority group has not attempted to marshal all the facts or arguments that can be used against health insurance but has endeavored to show that there are great dangers and evils in insurance practice which must be set over against the advantages of distributing the costs of medical care by this method. The minority group believes that the majority report has minimized these dangers and evils.

The minority recommendations follow:

"I. The minority recommends that government competition in the practice of medicine be discontinued and that its activities be restricted (a) to the care of the indigent and of those patients with diseases which can be cared for only in governmental institutions; (b) to the promotion of public health; (c) to the support of the medical departments of the Army and Navy, Coast and Geodetic Survey, and other government services which cannot because of their nature or location be served by the general medical profession; and (d) to the care of veterans suffering from bona fide service-connected disabilities and diseases, except in the case of tuberculosis and nervous and mental diseases.

"II. The minority recommends that government care of the indigent be expanded with the ultimate object of relieving the medical profession of this burden.

"III. The minority joins with the Committee in recommending that the study, evaluation and coördination of medical service be considered important functions for every state and local community, that agencies be formed to exercise these functions, and that the coördination of rural with urban services receive special attention.

"IV. The minority recommends that united attempts be made to restore the general practitioner to the central place in medical practice.

"V. The minority recommends that the corporate practice of medicine, financed through intermediary agencies, be vigorously and persistently opposed as being economically wasteful, inimical to a continued and sustained high quality of medical care, or unfair exploitation of the medical profession.

"VI. The minority recommends that methods be given careful trial which can rightly be fitted into our present institutions

and agencies without interfering with the fundamentals of medical practice.

"VII. The minority recommends the development by state or county medical societies of plans for medical care."

SAFEGUARDS IN DISTRIBUTION OF MEDICAL COSTS

This minority group agrees that any plan for the distribution of medical costs must have the following safeguards:

1. It must be under the control of the medical profession. (A "Grievance Board" to settle disputes, having lay representation, is permissible and desirable.)
2. It must guarantee not only nominal but actual free choice of physician.
3. It must include all, or a large majority of, the members of the county medical society.
4. The funds must be administered on a nonprofit basis.
5. It should provide for direct payment by the patient of a certain minimum amount, the common fund providing only that portion beyond the patient's means.
6. It should make adequate provision for community care of the indigent.
7. It must be entirely separate from any plan providing for cash benefits.

COUNTY SOCIETY PLANS FOR MEDICAL CARE

The minority group states its reasons for favoring thorough trial of the county society plan for furnishing complete medical care as follows:

1. It places responsibility for the medical care of the entire community on the organized physicians of the community.
2. It places medical care under the control of the organized profession instead of in the hands of lay corporations, insurance companies, and so on.
3. It places responsibility for the quality of service directly on the organized profession. It is in fact the only plan that guarantees quality of service and makes it the only basis of competition.
4. It removes the possibility of unethical competition because it includes all the phy-

sicians of the community and fixes a fee schedule.

5. Solicitation of patients, underbidding for contracts and other evils of the usual insurance plans are eliminated.

6. Freedom of choice of physician is assured and the essential personal relationship of physician and patient is thereby preserved.

7. It is the only plan that includes all classes, from the indigent to the wealthy.

8. It is adaptable to every locality, both urban and rural.

9. It provides for a minimum cost of administration by operating on a nonprofit basis.

10. It provides for payment, by every patient with income, of a certain minimum amount before the insurance is in operation. The minimum rises with the patient's income. This provision alone will operate to avoid many abuses in all other types of insurance practice.

11. It provides for means of certification of disability separate from the attending physician.

12. Cash benefits do not form a part of the plan.

SECOND MINORITY REPORT

The second minority report, which was signed by Herbert E. Phillips, D.D.S., and C. E. Rudolph, D.D.S., is in agreement with the first minority report in strongly emphasizing the necessity of maintaining professional standards and the position of the general practitioner. This group agrees with the first minority group that the majority is unduly critical of the professions. The second minority group joins with the first in declaring the medical center plan of the majority a utopian concept involving many problems too visionary or problematic to justify inclusion in an authoritative report of this kind.

The second minority group believe that the method of payment for medical service need not interfere with the highest professional standard or the close personal relations between practitioner and patient. Furthermore, this group is of the opinion that the introduction of compulsory health insurance under professional control would eliminate the objectionable features. It is in accord with the first minority group on the development by state or county medical society of plans for medical care.

The statements of Edgar Sydenstricker and Walton H. Hamilton are largely criticisms of the methods used by the Committee. They are of the opinion that the preliminary studies and the recommendation do not deal adequately with the fundamental economic questions which the Committee was formed primarily to study and consider.

STATE SECRETARIES AND EDITORS MEET IN CHICAGO

The annual meeting of Secretaries of State Medical Societies and Editors of State Medical Journals was held at the Hotel Palmer, Chicago, November 18 and 19, 1932. Also present were a number of Presidents and Presidents-Elect, and other representatives of State Medical Societies. The Michigan State Medical Society was represented by President J. M. Robb, President-Elect George Le Fevre, Dr. B. R. Corbus, Chairman of the Council, Dr. F. C. Warnshuis, Secretary, and by the editor. A departure was made from the usual custom in which the program is provided by a selected group of State Editors and Secretaries. This time, according to Dr. A. R. Mitchell, Chairman of the Board of Trustees of the American Medical Association, who called the meeting to order, it was thought well to have the program by prominent non-members of the organization who were in a position to speak with authority on the evils of contract practice and insurance schemes that were fast becoming a menace to the profession of medicine. Dr. Mitchell said that we had come to the parting of the ways. Were we to run our own profession, or were we to permit outsiders to step in, and, through exploitation, manage it for us? Business and medicine were, he claimed, incompatible. Business sought to increase its profits by enlarging its field of operation and by creating desires; medicine, on the other hand, sought always to bring about conditions which would render its services unnecessary.

The interest in the subject brought representatives from every state in the Union.

The opening address was by Dr. E. H. Cary, President of the American Medical Association. Dr. Cary spoke in part as follows:

"The most important of our medical gatherings is this convocation of the protectors of the faith—this annual meeting of the custodians of medicine's most valuable agencies, for reaching its devotees in the most remote places in this fair land. To me, this

is the most important session of medical men I have met with during my administration, for medicine must meet important problems arising both within and without the profession, and they cannot be solved without your consideration and determination."

The days were spent in a discussion of the effects on the profession of contract practice in its various forms, which included group insurance in which the physician was controlled by a third party. Dr. Cary went on to say that contracts made by hospitals insuring people have grown from offering hospital care alone, to a combination of hospital and medical service which would undoubtedly involve the medical profession in harmful and undignified practices. Such problems necessarily concerned county medical societies and through them the state medical society and finally the judicial council of the American Medical Association. A recent opinion of the judicial council was expressed as follows: "A fundamental of medical ethics is that anything which in effect is opposed to the ultimate good of the people at large is against sound public policy and therefore unethical."

Dr. Cary considered it the duty of county units to propound a policy acceptable and workable to solve the problem of medical care as it related to the under-privileged. No plan, however, was likely to work until the profession was unified in its desire to meet and solve such problems. He spoke of the final report of the Committee on the Cost of Medical Care and mentioned the fact that the public would have its choice between a majority and minority report. The public should be interested in avoiding the pitfalls of any system which discredited the awards of competitive medicine—those rewards which appealed to the highest type of young people and which magnified the values occurring in a selected personnel which should compose the profession. Medicine opposed any system which threatened the advance of scientific knowledge and

Editorial Note: The editor has endeavored to present the papers and discussions at the annual meeting of state secretaries and the editors of state medical journals in summary. No attempt has been made to report the addresses verbatim. While endeavoring to present the arguments in condensed form the speakers are not responsible for our omissions or phraseology, a fact that will appear at once to the critical reader. These papers and discussions will be printed in full in coming numbers of the Bulletin of the American Medical Association, and it is hoped that each member will peruse them in their original form.

progressive development of the healing art. In every country in which medical practice had become subservient to outside control, progressive scientific medicine and the best medical care were found utterly incompatible.

"When the county society," said Dr. Cary, "as a unit becomes the chief factor in organizing a plan (for the care of the under-privileged) then medicine will be able to surmount what can be considered the catastrophic cost to individuals and families who are unfortunately sick. When this is done, the sacred rights of personal confidence between patient and physician will be preserved, and at the same time a method will be supplied for meeting the economic necessity of the cost of sickness, which might be entirely beyond the means of the afflicted ones."

Dr. Cary went on to mention that the American people were realizing that there was a limit to their capacity to pay taxes. Everyone was becoming aware of the danger to the state which had come in the wake of the tax burden which now existed. Leaders of both political parties, leaders of business, veterans of the world war, and citizens throughout the land recognize the impossibility of continuing a policy towards veterans not injured in the war which had added four hundred and fifty million dollars to the over-burdened taxpayers, which sum was being paid out by the government. There was no difference of opinion in having the government care for all veterans with service connected disabilities. This was an important matter to the physicians of the nation, since without physicians no country would dare go to war. The medical profession of the United States should demand the repeal of 202-10 amendment which directly concerned us and should join all other earnest citizens in a desperate effort to bring the budget of the United States government back to a reasonable basis.

Dr. Cary summarized his address as follows:

1. Should we or should we not advocate as a basic principle the Iowa* plan of dealing with indigency?
2. Should we or should we not develop a comprehensive inclusive county medical society plan of creating a budgeting system

whereby the catastrophic needs of the people can be met at a cost within the reach of the families who are unfortunately sick?

3. Should we or should we not condemn all hospital insurance schemes for the care of the sick? Or, is it possible to discriminate and say to hospitals that no plan will be recognized as worthy which includes the physician's services, but such hospitals are to be opened to all members of the county medical society, preserving free choice of medical service on the part of the patient.

4. Should we or should we not bring all the pressure we have to bear upon the December Congress to establish a different policy toward the hospitalization of nonservice disabled veterans?

5. Should we or should we not demand the repeal of the 202-10 amendment which has opened the government hospitals to all nonservice disabled veterans?

6. Should we or should we not strive both to limit the number of new medical graduates and to develop the field of immunization and preventive medicine for private practitioners?

7. Should we or should we not fight with all the strength of the body medical in its individual and collective entity, the trend to state medicine in all of its ramifications which threatens to destroy our professional integrity and material remuneration and to retard the progress of our science?

DR. PUSEY'S ADDRESS

Dr. William A. Pusey of Chicago, a former president of the American Medical Association, spoke on The Principles and Policies of the Medical Profession in Its Public Relations. Society looked upon the medical profession as its trustee in disease and injury and the profession willingly accepted that responsibility. To fulfill such an obligation it must attract the best men. Medicine had also a duty to society at large in the matter of encouraging and furnishing means of disease prevention. Business in controlling medicine subjected it to lower standards by placing it on a competitive basis in the endeavor to procure medical services at the lowest possible terms. The universality of the need for medical service made medicine more subject to socialization than any other calling. Dr. Pusey maintained that from eighty to ninety per cent of medical service was best rendered by the

*See Editorial, Journal Michigan State Medical Society, Vol. 30, page 44.

physician in private practice in his office. Here the patient met his physician personally and the physician was stimulated to his best effort to serve him.

Medicine did not offer wealth. That should not be the objective of the physician. It must, however, insure him an independent career. Men must have an opportunity to develop the best that is in them. Medicine should therefore insist on maintaining control of its own affairs. It had been an autonomous profession for hundreds of years. It has been characterized by altruism and unselfishness more than any other calling, striving always to render its services unnecessary.

Medicine must continue to be dynamic, willing to change its practice as conditions demand. This did not mean, however, that it should make concessions to shortsighted expediency. Medicine had the oldest code of ethics of any profession, going back to the Hippocratic oath. It was the duty of medicine to affirm the spirit of that oath.

The speaker condemned any form of medical or surgical practice which prevented the free choice of a physician on the part of the patient or which made the doctor an employe of a corporation except in those rare instances of expediency. He also referred to the practice of medicine by hospitals, which he strongly condemned, inasmuch as such institutions used their prestige, endowments and exemptions in unfair competition with the independent practitioner. Governmental practice of medicine was also objectionable inasmuch as *quantity* practice was encouraged to the detriment of *quality* practice. No community which tolerated such questionable forms of practice could hope to retain high grade physicians.

Dr. Pusey concluded with the following summary of his twelve points in the principles and policies of medicine.

Principles. 1. Medicine is the trustee of society in the care of the sick and injured; its policies must always be governed by this fundamental fact.

2. The good of society must be the sole aim of its public policies and the good of the patient the first consideration in the relations between physicians and patients.

3. Medicine's first responsibility must be to see that its services are available to all men.

4. The public interest demands the most

competent medical profession possible. Medicine must be an attractive profession to compete successfully with other professions for the ablest young men.

5. In the sense that every calling from which a living must be gained is a business, medicine is a business; it must accept the competitive conditions of practical life but, as a profession of high ideals, it must seek to prevent selfish commercialism.

6. Experience has shown that the vast majority of disease conditions afflicting man can be most satisfactorily and economically diagnosed and treated by a competent individual general practitioner.

Responsibilities. 7. The services of medicine include (a) the practice of medicine; (b) the promotion of preventive medicine and the public health; (c) the fostering of research and the increase of knowledge.

8. Medicine's chief concern must be for the individual physician; the service rendered by individual physicians in the aggregate constitutes the great bulk of medical service. The quality of service which is given depends on the competency of the individual physicians who give it.

Rights.—9. The medical profession asks for its practitioners: freedom of opportunity to develop to the limit of their individual capacities.

10. It asks a career of independence under conditions of free and dignified competition.

11. It asks remuneration sufficient for reasonable comfort for the individual and for his family.

12. In its ideals of independence, medicine has a right to control its own affairs. Its history of capacity and altruism justifies this claim.

DR. DEAN LEWIS SPEAKS

Dr. Dean Lewis, president-elect of the American Medical Association, in his address declared that the sacred relation between patient and doctor must be preserved and the inalienable right of the patient to the physician of his choice must be defended at all cost. Referring to the cost of medical care he went on to declare that it was not any higher than anything else during the post war period. Everything had cost more.

Dr. Lewis deplored the tendency of the clinician to leave the matter of diagnosis to the laboratory technician. During the past

twenty years we witnessed the passing of the old time clinician and the advent of the laboratory technician in his place. The function of the physician, he maintained, was to study his patient's condition, to make a diagnosis and to use the laboratory simply to check over his findings.

The speaker dealt with the hospital situation. Hospitals should be designed as hospitals and not as palaces for the rich. Much of the high cost of medical care was due to the refusal of patients, or, rather, their friends, to accept hospital accommodation within their means. It was a difficult matter to get patients to accept moderately priced hospital rooms.

Referring to university hospitals, Dr. Lewis was thoroughly opposed to any university clinic competing with the individual practising physician.

Dr. Lewis claimed that the disparity of the fee of the surgeon and that of the internist should be adjusted. For men of equal mental ability the remuneration should be equalized. The surgeon receives less and the internist more.

The speaker was opposed to the two year rotating internship for medical graduates, which resulted in competency in no one department. The man who knew one thing well was much to be preferred to him whose knowledge was a smattering of a number of things.

DR. FOLLANSBEE SPEAKS

The Octopus of Medicine was the title of a paper presented by Dr. G. E. Follansbee of Cleveland, Chairman of the Judicial Council of the American Medical Association. He went on to describe the octopus as an ugly disgusting insensate creature with long arms and tentacles with which it destroys everything that gets within its grasp. Dr. Follansbee's paper was a strong condemnation of physicians who commercialized medicine by hiring out to business and industrial concerns whose purpose was to secure medical services at the lowest possible cost. In industry the machine had largely displaced workers. What shall become of the man displaced by the machine? There was nothing left for him but to become a pauper. Medicine, he claimed, had not been spared by business and industry. When business and industry found it to their advantage to utilize medicine there was always

a willing doctor available. Such exploitation of the medical profession made a simple commodity of what should be a high grade professional service. People could not judge rightly of high grade professional service as they could of material things, otherwise we would not have cults and patent medicines.

The address was an argument presented against the exploitation of medicine by interests other than the patient and the doctor.

Dr. R. G. Leland, Director of the Bureau of Medical Economics of the American Medical Association discussed the subject Some Dangerous Features of Contract Practice. Dr. Leland stated that there were over four hundred instances of contract practice of various forms in operation in the United States today. This paper was a description of many of these schemes, describing their merits as well as the objectional features that rendered them detrimental to the practise of medicine for which organized medicine in the United States stood.

Dr. D. A. MacGregor of Wheeling, West Virginia, discussed the subject of contract practice in West Virginia. Since this paper dealt with conditions peculiar to Virginia which would be largely inapplicable to Michigan, the papers, as already intimated, will later appear in the Bulletin of the American Medical Association.

DR. J. M. ROBB ON HEALTH INSURANCE

Dr. J. M. Robb, of Detroit, President of the Michigan State Medical Society, read a very interesting paper on the matter of Health Insurance. Dr. Robb deplored the fact that the present financial depression disposed many doctors to render services on conditions which in normal times they would never consider. It was a serious mistake, he claimed, to allow a middleman to gain a foothold between the doctor and his patient, as was the case in many of the proposed health insurance plans. The object of the majority of insurance schemes was to control a social group which the general practitioner had been accustomed to serve and from whom he derived his livelihood. To be a party to any large scale insurance plan is to take from the ranks of the medical profession patients on whom they had always depended.

The tendency of society in general, he said, was to become accustomed to mass

movements as taught us by the conduct of the great war. There is a great tendency to discount the old spirit of self reliance as once practised by individual men and women.

We had workingmen's compensation which tended to relieve the patient of responsibility. There is also a disposition on the part of wealthy persons to establish clinics for the purpose of doling out medical services with a free hand. Then there was the legalized abuses in the care of veterans, all of which were examples of the generosity of American wealth to dispense medical services at the expense of the medical profession. Similar organizations now seek to placate the people with health insurance with a handsome profit for themselves, unwittingly laying the foundation for their own destruction since they are driving the entering wedge of socialism through the agency of the medical profession. The medical practitioner, according to Dr. Robb, was waging a battle to maintain his very existence with almost every force arrayed against him. Was it any wonder that the average doctor was bewildered and confused?

Any insurance plan must necessarily include only a small percentage of doctors in any community, impoverishing the remainder who must subsist on the residue of the population that is not involved in the insurance plan. The physician allowing his services to be exploited may have a steady income for a time but would be subjected to the possibility of being dismissed or having his income regulated by competition. There would be little incentive for a physician so hired to pursue graduate instruction, so that eventually his medical practice would degenerate into mere mechanical routine. He would, in short, according to the speaker, be an artisan in the employ of a group whose primary interests are profit. The wise physician will not ignore these movements inasmuch as every graduate of medicine will be affected, most of them adversely, as time goes on. If not active, each should lend his moral support at least to those members of the medical profession who are fighting the battles.

Dr. Robb went on to outline briefly some of the so-called plans that had been suggested, referring to the articles appearing in the Journal of the American Medical As-

sociation, during the fall under the heading new forms of medical practice. He also cited the experiences of the medical profession in England and Germany. What had been predicted by the professions in these countries when insurance schemes were in the offing had become only too true. The elimination of individual responsibility has encouraged malingering and the workers had degenerated into recipients of the dole. We should, Dr. Robb went on, learn from the experience of European countries. Those with the highest percentage of supplied and mostly lay-controlled medical care give their people the most perfunctory type of medical service. Malingering, he said, soon became a great problem confronting all health insurance schemes. It might be eliminated by the separation of health insurance from indigent insurance. The medical service rendered by the physician should be separate and distinct from any dole to the patient for other purposes. The doctor would thus avoid becoming a partisan to raids on insurance funds at the request of malingering patients. A meddling third party, the doctor continued, always constitutes an obstacle to efficient medical service. France has been wise enough to exclude the so-called third party.

Every state medical society should have a central bureau, the function of which should be to compile data and to study all social experiments being made in the state. This information might be used to guide legislative thought and action. The medical profession was, he said, the only group qualified to pass upon the problems of medical service and all schemes of health insurance depended upon the service given by physicians. Organized medicine, therefore, must sponsor such application of the health insurance principle if it is to control its own future, otherwise the scientific and cultured level of the profession will eventually become lowered and the health and happiness of mankind shall pay for the folly on the part of the profession for letting its service get beyond its control.

DISCUSSION

The papers of the day were discussed by the members of the organization. Many secretaries and editors asking for something definite to take back to the various state and county societies. As one speaker expressed

it, the diagnosis of the medico-economic situation was clearly stated, but what of the treatment? What was the remedy? Some thought the abuses of contract medicine should be corrected, if a remedy were possible, by the American Medical Association. Dr. Woodworth, the legal adviser of the Association, said that he thought it necessary to make clear the distinction between legitimate contract practice and contract practice that was unethical, and, if persisted in, would result in the deterioration of medical practice. There existed conditions in which contract medicine was the only form of practice feasible, for example, in mining districts, where living conditions were such that no physician could consider such location without an assured income.

No definite conclusion was reached except that, as two speakers maintained, of the four hundred and five schemes in practice in the United States, conditions varied to such a degree that they could be studied and dealt with only by the local unit, the county medical society. Dr. Olin West, manager of the American Medical Association, in a vigorous address advocated a committee on public affairs to consist of the strongest personalities in the county society, men of judgment and tact, to deal with the different insurance schemes, inasmuch as the disciplining of members was in the hands of

the county units. He referred to the system of medical ethics, the violation of which always worked to the detriment of both the public and the profession. No profession could long endure that was not founded on an ethical basis.

Dr. Fishbein emphasized the importance of intelligent contact between the profession and the public. The profession should discard the literature (using the word in a very unliterary sense) that came to their desks every month with advertising matter interspersed with papers, some by men who should know better than to contribute to such publications. There was a tendency towards too many independent medical organizations which tended to distract rather than unite the profession in a common cause.

The papers and discussions read at the meeting will appear during the coming months in the Bulletin of the American Medical Association, where they will be available to each and every member of the county and state medical societies. There never was a time in the recent history of organized medicine when it was so necessary that every physician keep informed in regard to the trends in medicine as well as the factors that tend to the ultimate destruction of medicine as a noble learned profession.

RELATION OF ALKALOSIS TO PEPTIC ULCER

HENRY A. RAFSKY, LOUIS SCHWARTZ and ALEXANDER W. KRUGER, New York, administered excessive doses of alkalis to sixty-one patients with peptic ulcers, by a method in which initial small doses were followed by progressively larger doses until there ensued a complete cessation of the symptoms. The carbon dioxide combining power of the blood plasma and the blood chlorides did not reveal any evidence of alkalosis in any of these cases. Patients with renal disease and allergic persons were treated more cautiously by this method. Patients with pyloric obstruction and extreme degrees of gastric hypotonia were not treated by this plan. Two patients, who were treated according to the Sippy method, developed severe symptoms of alkalosis and showed definite biochemical changes. In order to minimize the danger of alkalosis resulting from excessive alkaline therapy, more attention should be directed to the method of administration as well as to the type of patient to receive this form of therapy.—*Journal A. M. A.*

EXPERIMENTALLY PRODUCED PEPTIC ULCERS: DEVELOPMENT AND TREATMENT

FRANK C. MANN and JESSE L. BOLLMAN, Rochester, Minn., point out that acute gastric or duodenal ulcer has been produced experimentally by numerous methods, but the subacute or chronic ulcer has rarely been produced in animals. They present a review of the results of investigations carried out in their laboratory over a period of years on experimentally produced peptic ulcer. The lesion they have studied simulates both macroscopically and microscopically peptic ulcer as seen in man. They have determined some of the factors responsible for its causation. They have been able to observe the development of the lesion from its incipency to its maturity when it had become a typical chronic peptic ulcer as seen in man. They have also been able to make the chronic lesion heal and to observe the process whereby it heals. The studies have given them a clear, composite picture of the entire life cycle of the experimentally produced peptic ulcer.—*Journal A. M. A.*

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JANUARY, 1933

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon

EDITORIAL

INROADS INTO THE PRACTICE OF MEDICINE

It would seem superfluous to quote or to refer to reading matter which appears in the Journal of the American Medical Association, for doubtless every reader of this Journal reads also the Journal of the American Medical Association and our endorsement may not mean much to the great national Medical Journal. However, among the able articles in the Journal of the American Medical Association appeared recently a series on New Forms of Medical Practice which will bear serious study.

The whole social and economic system of

the world has been undergoing an experience unprecedented in the history of our present civilization. Less than three centuries ago, following the invention of the steam engine, was the final transition from feudalism to capitalism; today there appears a transition from capitalism, to what? Who knows? As a great profession whose history is lost in the undated past, medicine is being affected by the same factors that are at work in other fields. Among these is the movement towards organization of medical service for profit by laymen on the lines of so-called big business. Shall we drift with the tide or shall we endeavor intelligently to understand and possibly to direct the forces that are making inroads upon our calling? Regarding some of these newer forms of medical practice, according to the Journal of the American Medical Association, "In general, all the schemes described seem to have been developed primarily for profit to the promoters rather than with any sincere purpose to render a better type of medical service or to lower the cost of good medical care. Indeed, as has been said previously, most of them attempt to lower the cost of medical care either by exploiting the services of salaried physicians who are willing to sell their medical birthrights for the promoter's mess of pottage or by providing what is essentially an inferior quality of medical service."

Some lay organizations are presumed to be of a philanthropic character to provide medical service for the indigent. Even these, however, are of the nature of the so-called "gift horse" and there is a tendency to overstep the bounds of charity. The service that they are supposed to render has been better taken care of by the independent physician. The Journal of the American Medical Association continues:

"From time immemorial, physicians have rendered service to the poor without counting the cost of such service. There are no doubt available millions of instances in which physicians have actually dipped into their own pockets to correct the economic conditions responsible for the illnesses of poor patients. Instances too numerous to mention have occurred in which a doctor, called to a patient with tuberculosis or pneumonia, and realizing that the essentials necessary for improvement were nutrition and warmth, has himself paid the cost of these necessities. This, however, differs greatly from the problem raised by the establishment of corporations to render medical service to persons of the middle class. Every one admits the desirability of organized and institutional care of the poor. Good physicians know that the type of care

given to the poor is scientific but that it is not comparable with the type of medical care available to those who can purchase the best. The vast majority of people are in the middle class."

It would be far better were the great middle class trained to provide for illness as they are for other things. Insurance, as we said in our editorial of last month, is a good thing and should be encouraged on the condition that it leaves the citizen free in the choice of his doctor, consultant or hospital. After all, in spite of the developments in medicine, the cost of medical service, comparatively speaking, is not so great as many writers in lay magazines would lead their readers to believe. Compared with the cost of many luxuries, such as tobacco, cosmetics, or even the maintenance of the automobile that is driven for pleasure, the cost of medical care for the average family is a negligible matter. The tendency of the charitable clinic and other forms of near-charitable medical service has been to deprecate the value of it. In the average city-owned hospital every personality concerned is paid except the doctor, whose services are free. It is time that a reaction in the opposite direction took place, especially in the matter of sense of values. We feel that, after all, the old personal relation between doctor and patient must be preserved, a thing impossible under a so-called socialized or corporation practice of medicine.

MEDICAL POLITICIANS

We are in favor of medical politicians if by the term is included those members of the profession elected to positions which constitute the organization of the medical profession into county, state and national associations. It is inconceivable that the term can mean anything else. The term politician in its generic sense has become one of reproach since so many have sought political positions purely for emoluments of office. What pecuniary advantage is it to hold an office in the gift of the medical profession? There is nothing but hard work and sacrifice of personal interests, if the incumbent is sincere.

Every body of workers has found it of advantage to organize, whether those who toil with their hands, or those whose power to serve is in the domain of the intellect. Any quarrel we have ever had with labor

unions has not been with unions as such, so much as the fact that the object has been too often sordid and confined to advancing wages rather than self-improvement. No one can honestly charge the medical profession with organization for the purpose of economic advancement. Our organizations have been always for the purpose of advancing the science and art of medicine. The time has come when the integrity of the medical profession is being threatened. The medical politician (using the term in a good sense) was never more necessary than at present. May we have men that can take occasion by the hand and preserve the freedom of the independent practitioner. Those who do not wish to serve, or cannot, should give their moral support at least to those who will and can sponsor the best interests of the profession. It was never more urgent that all reputable men should be members of their county medical society. By so doing they are supporting the cause of medicine. By remaining on the outside they are partaking of the benefits of organized medicine without in any way contributing to their own welfare.

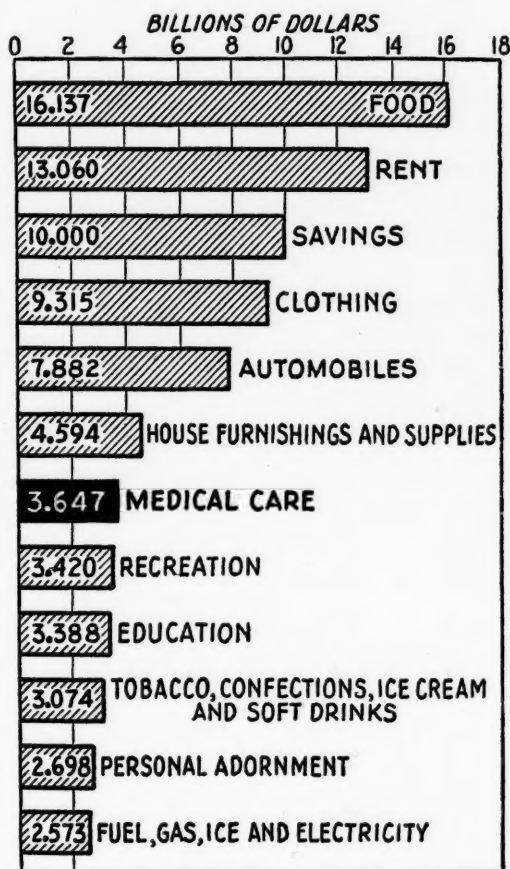
There are physicians who prefer to pursue their calling alone and to work without the benefits of attendance upon medical society meetings. That is their concern alone. They should not lose sight of the fact, however, that no one really lives unto himself, that if protection of his profession by law means anything he owes it to those members who at a personal sacrifice study medico-social and economic problems and secure the ear of legislators in their interest, which is also in the interest of the great public served by the medical profession in time of need.

THE SUPPLY OF PHYSICIANS EXCEEDS THE DEMAND

A commission organized seven years ago by the association of American medical colleges made its final report early last month. The commission found the supply of doctors greater than the demand by approximately 25,000. According to the report there is particularly an excess of specialists. There is no doubt that the supply of doctors is in excess of the demand. This is true also of lawyers, of engineers, of automobile manufacturers, of shoe factories, of everything. The ratio of physicians to population is one

to 780 persons. According to the commission, one to 1,000 or 1,200 persons would be more satisfactory to all concerned. Some remote communities not able to support a

to advantage would be to confine the practice of medicine to those who have fulfilled the requirements of the various states for medical license. The matter of limiting the

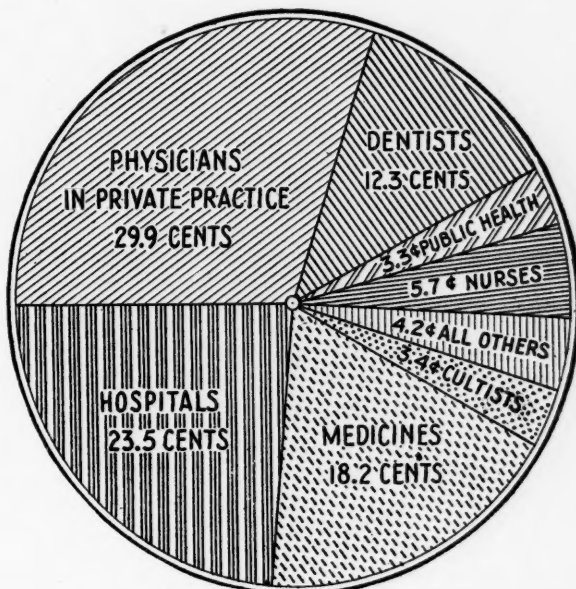


(From New York Times, Dec. 5, 1932)

THE PLACE OF MEDICAL CARE IN OUR 1929 EXPENDITURES.

physician should be provided with one whose income should be supplemented, if necessary, out of public taxation in some instances the physician should be on full time salary.

An adequate distribution of physicians so as to provide for remote and sparsely settled districts would not solve the problem of over-supply, for the simple reason, as we have said, that there is an over-supply of nearly every service or commodity that can be mentioned. The remedy is not so simple. Elsewhere appears a diagram showing the relative cost of items that constitute medical care. Physicians in private practice get 29.9 per cent of the dollar cost while 25.8 per cent goes to patent medicines, cultists and to other items that might well be dispensed with to the great benefit of the people at large. One thing that might be done



(From New York Times, Dec. 5, 1932)

OUR MEDICAL DOLLAR AND HOW IT WAS SPENT IN 1929.

numbers of medical graduates is being discussed. If this is done with discerning wisdom the result will be good; by this we mean that every opportunity should be held out to the young man of first class ability to study medicine even though his finances be limited. Many successful doctors have been among those to whom the fees of some of our best medical colleges would have proved an unsurmountable barrier. To limit medical education to the well-to-do will eliminate a class of physician who has been willing in the past to endure a certain initial privation and to locate in small communities.

THE COMMITTEE ON THE COST OF MEDICAL CARE

(The New England Medical Journal)

The United States is said to be the only country in the world in which a substantial group representing the professions concerned with medical care have united with a group of social scientists and members of the general public in a careful study of the problems and needs of the situation. The subject is one in which there will be divergence on some points, but there can hardly be any difference of opinion that the present situation in medical service is neither satisfactory to the public nor to the profession; that many trends in economic life and in the scientific progress of medicine itself compel substantial changes; and that changes will be more

advantageous to all concerned if made as a result of deliberate, purposeful and coöperative action.

An answer must be given to one important question and that is: Will organized medicine take its place in the solution of the problems now before this country respecting medical service to all the people?

THE I. Q. OF THE CLINIC DOCTOR

The annual report of the Committee on Economics of the Medical Society of the State of New York properly states that the "unrestricted and unconditioned access to clinics and hospitals for free medical service is a disgraceful prostitution of a traditionally charitable and indulgent medical profession." This, of course, refers to New York City, where persons are not "certified for indigency" before being permitted to receive free medical care, as in the rural parts of the State under the public welfare law.

What is the matter with the doctors who unprofitably staff these clinics and hospitals? Is it just traditional charity and indulgence? Is it just science and research? What about the intelligence quotients of these men?

If these times cannot awake men to patent abuses which they themselves are fostering we have a right to question, not their characters, but their brains.

These paragraphs are from the Medical Times and Long Island Medical Journal. We print them here because we believe they have a wider application than in New York City.

PREVENTION

'Twas a dangerous cliff, as they freely confessed,
Though to walk near its crest was so pleasant;
But over its terrible edge there had slipped
A duke and full many a peasant.
So the people said something would have to be done,
But their projects did not all tally.
Some, "Put a fence around the edge of the cliff,"
Some, "An ambulance down in the valley."

But the cry for the ambulance carried the day,
And it spread through the neighboring city;
A fence may be useful or not, it is true,
But each heart became brim full of pity
For those who slipped over the dangerous cliff.
And dwellers in highway and alley
Gave pounds or gave pence, not to put up a fence,
But an ambulance down in the valley.

Then an old sage remarked: "It's a marvel to me
That people give far more attention
To repairing results than to stopping the cause,
When they'd better aim at prevention.
"Let us stop at its source all this mischief," cried he,
"Come neighbors and friends, let us rally;
If the cliff we will fence, we might almost dispense
With the ambulance down in the valley."

"Oh, he's a fanatic," the other rejoined;
Dispense with the ambulance? Never!
He'd dispense with all charities, too; if he could.
No, no, we'll support them forever!
Aren't we picking up folks just as fast as they fall?
And shall this man dictate to us? Shall he?
Why should people of sense stop to put up a fence,
While the ambulance works in the valley?

—JOSEPH MALINS in *The Public*.

MEDICAL ECONOMICS

TRENDS IN MEDICAL ECONOMICS*

LLOYD L. SAVAGE, M.D.

CARO, MICHIGAN

In order fully to appreciate the arrangement we have made with the Board of Supervisors of this county, I have been asked by several members of the society to review briefly the trends in medicine that pertain to the economic side. This is apparently in order, according to the articles recently appearing in the daily papers.

The world is in a state of flux at this time, and minority groups are attempting to foist upon us some new and radical ideas. Some of these ideas might prove very wonderful, but some of them are hopelessly wrong in fundamentals, as the eighteenth amendment has proven to be. Just at present there is a great agitation in lay and medical periodicals to reorganize the medical profession so that the dear unsuspecting public will be insured of perfect medical care at cost. The process seems to me to be to focus attention upon an undefended spot, to blind the public to the greater inconsistencies in the life of the average man. This time the attention is directed to the undefended medical profession. I say undefended, because we are often spoken of as the great medical trust, although we who are of it know so well how false is such a charge. Great tears are now being shed for the great white collar class who have to pay for all the medical care of the less fortunate brethren. The main reason for this smoke screen is to cover up the colossal failure of the great organized business world that has overshadowed everything with its rapid growth and the magnitude of its institutions.

The past fifty years have seen the development of great industries and business organizations, which with their towering buildings and enormous capital have put to shame the earnings of the lowly doctor. Naturally the medical profession, being widely scattered, very silently carrying on its work, cannot show up favorably with the great bally-hoo of the business world. Yet it is apparent that the leaders of business desire to cover up the great blunders of the past few years by pointing condemning fingers at the medical service of this country and demand that we reorganize somewhat after the plans of medical service in Europe. There are two minority groups particularly interested in reorganizing medical practice. One is the insurance group who would underwrite the business and thereby profit on the doctor's labor. The other group is that of men in the profession who are already semi-socialized, whose positions would be advanced by the enlargement of their institutions.

It is for this reason that I wish to review briefly the plans in operation in several countries of Europe and in America so that you will all be familiar with what may be suggested for adoption by the medical profession of the United States in the next few months.

*Read before the Tuscola County Medical Society December 1, 1932.

AS IT IS DONE IN GERMANY

About the first example of socialized medicine began in Germany in 1889. At that time the industries of Germany were attempting to compete with the rest of the world. In order to produce merchandise and sell it in competition after passing the tariff barriers, they had to work their labor longer hours and for less wage than anywhere else. This was before the era of production methods of to-day. To compensate labor for this hardship, Bismarck offered them the *Krankenkasse*. This was to be a panacea; to quote Bismarck, "a leap in the dark to preserve the industry of Germany." The *kranken-kasse* is a compulsory insurance that applies to all industrialized labor and middle classes. The insurance is divided between private companies and a government department. Insurance pays all medical and dental expense, and fifty per cent of the policy holder's wages for twenty-six weeks, formerly for thirteen weeks. Governmental insurance applies to those whose wages are below \$900.00 a year. This includes about one-third of the population. The cost of this insurance is about 6 per cent of the wage. Ninety per cent of the people belong to some kind of insurance. Before the war only twenty per cent belonged to the insurance groups. The reports of diagnosis, progress and summary of the patient's illness make a colossal paper work for the doctor, which must be in his handwriting. When the head of the house has insurance, the whole family benefits. The bachelor pays the same rate as a father of six. In return they are given routine medical care. Expensive drugs and supplies are extra. Third class care in hospitals of the patient's choice is allowed. When compared as a whole, it is inferior to our care. Cases requiring more than twenty-six weeks are taken over by the city charities. The patient may choose his physician now, because all doctors are on the insurance lists. He is advised to choose one not more than fifteen minutes walk away. The first doctor called must be retained for three months regardless of the satisfaction rendered. Consultation is free. The patient must first obtain a sickness slip from the insurance office, which costs him twelve cents, one-half mark, and have it signed by his doctor. This fee has resulted in a reduction of fifty per cent of medical practice, and has caused many clean cases to become suppurating.

The doctor, twenty-five years ago, was prosperous and independent. Medical advancement was at a peak in Germany. Today the average income is less than \$1,200 a year. There are four marks in one dollar, one hundred pfennigs in a mark. All fees are regulated. Obstetric cases pay a fee of twenty-five marks. The mother is paid 50 pfennigs a day for four weeks before and six weeks after delivery of a viable child. Office calls are paid for at one mark, house calls two marks, night calls four marks, appendix operation twenty marks, gastric resection forty marks, tonsillectomy five marks. These fees have recently been reduced 10 per cent. The general practitioner is allowed a total of four and three-fourths marks per patient per quarter, which adjusts the difference between severe and mild cases. Specialists are allowed ten marks per patient per quarter, because of their limited work. The public has become accustomed to specialization. The *kranken-kasse* has: (1) destroyed the relationship between patient and doctor; (2) deadened the doctor's ambition to improve; (3) reduced the doctor's standard of living; (4) pauperized the patient, since he may as well be ill at 50 per cent wage as to get well and work (He merely reduces his standard of living. An investigation of one million cases proved that 56 per cent were malingering); (5) placed an impossible load on the doctor. The

general practitioner is generally called a scribe. The best that can happen is now doing so. The insurance funds are bankrupt. The financial burden is proving too great for the taxpayer.

AS PRACTISED IN ENGLAND

England under Lloyd George, subject to the same industrial stress, enacted a system of socialized medicine similar to that of Germany. An attempt was made to correct the defects that had become apparent in the German system. A panel system was created that gave a larger choice of physicians. The manner of payment differed, in that the doctor obtained a set fee for all patients on his list, whether they were ill or not. The total number of patients on a doctor's list determined the amount he should receive. This was to give a doctor an income in proportion to his popularity and adjust the difference between severe and mild cases. The patient made the choice, and could change at the end of any quarter. The fee was set at eleven shillings per patient on the doctor's list. This has been cut several times. In this system the whole family of the insured obtained medical care.

There are many details of the system both favorable and unfavorable, but I wish to call particular attention to the defects. Here again the compensation of the sick patient proved too great a temptation to remain ill. The doctor who permitted the greater number of patients to remain on the compensation lists was very popular and of course had the greatest practice. His work was not so much the practice of medicine as writing useless reports. The lay control in the government bureau determines what drugs and surgical supplies shall be used. The doctor has to choose from a list of drugs that are inferior to the pharmacopœia.

This system puts a premium on dishonesty. The present condition is a lamentable one according to many physicians and government officials. Lay proponents of the system mention the number of persons who have been on the lists for years and have not been ill. An important thing which is not mentioned is that the number of days of illness per year per patient is between 12 and 16 under the panel system. The figure in Germany is 16 and a fraction as compared to 6 and a fraction in the United States. The insurance plan was given over to private insurance companies. They failed. In order to carry on they obtained subsidies from the Government Exchequer. The taxes amount to government seizure of private property and to socialism.

THE FRENCH MODIFICATION

The French Cabinet adopted a plan of medical care similar to the panel system. The usual difficulties arose over the patient's choice of physicians and hospitals. The same restrictions in the choice of drugs and supplies applied. The lay control of the practice of medicine and dentistry was again asserting its rights. They attempted to reduce the pay of doctors, dentists, and nurses. The dentists organized and led in a strike against the system. They were quickly followed by the medical profession. As a result they have removed the practice of medicine and dentistry from lay control, and have established several commendable principles that preserve the relationship between physician and patient. The physician sets his own fee and prescribes what medicine he deems advisable. The effort to keep expense down is dependent upon the education of the doctor. Of all, the French system is the best of any in Europe. Belgium, Holland, and Switzerland have socialized medicine.

Russia has of course a completely socialized medical service. In this case it has one thing in its

favor. Everything in Russia is socialized and the position of the doctor is a little higher relatively than in the other countries mentioned. It is of interest to note, however, that the rest of society is reversed. Labor ranks highest. The doctor and engineer occupy about the same position. The doctor and engineer retain the respect of all because the Five Year Plan cannot be carried out without them.

IN ITS SOCIALIZING RUSSIA DOES NOT DISCRIMINATE

Medical care in Russia is divided into home care, outpatient, and hospitalization. Home care consists principally of emergency calls. The patient is instructed to go to a clinic if possible. If unable, he is hospitalized. Hospital facilities have been increased from 30 to 100 per cent in the last few years. The hospital facilities of Russia are still below those of the United States. As a rule, the hospitals were found to be scrupulously clean. The food was found to be clean, wholesome, and plentiful. There was a noticeable lack of attendants, sixty to seventy for 300 patients. The equipment was good. There is considerable physiotherapy used. Outpatient care is arranged in the polyclinic style. Each department is in charge of a specialist. Much attention is given to preventive medicine, prenatal and infant care. Contagion and venereal disease is a special branch of medical care and public education. There is one doctor for each two thousand persons in Russia. The doctor is paid 200 roubles a month. He works eight hours a day in a clinic where he may see sixty patients a day. Heads of large hospitals may receive 400 roubles a month (a rouble sells for 50c). Some doctors have larger incomes than Stalin. There are fifteen medical schools in Russia. The medical students are chosen by competitive examination, and are paid salaries. Specialization is urged. The patient is only a small cog in the machine of medical service. Individualism is submerged in the social fabric of the whole. Abortions have been legalized permitting social, economic or other reason, if done within three months. Unauthorized abortions are punished by one year in prison. Thus we see a sketchy picture of completely submerged personalities by a huge social system. The Russian medical service has many things in its favor. It is a product of scientific planning by men who apparently are sincere. The question always before us relative to such a social plan is, what will be the effect of the human equation?

TRENDS OF MEDICAL PRACTICE IN AMERICA

To come to this side of the Atlantic, we have in Cuba a system of medicine completely controlled by laymen. It is conducted under the auspices of fraternal and athletic associations similar to some organizations in North America. The society sells memberships to individuals and industries. This membership offers privileges in club rooms, gymnasiums, swimming pools, and tennis courts. Incidentally it offers complete medical, surgical, and hospital care to its policy holders. The executive board of the society hires medical men and more or less completely regulates the type of care dispensed. The specialist receives \$125.00 a month, the general practitioner, about \$100. Medical men are on call twenty-four hours a day in addition to regular hours in the clinic. It does not require much imagination to visualize the type of service rendered. There has been no research in Cuba since this system came into control. It amounts to 95 per cent of all the practice in Cuba.

This brings us to our own country again with the great agitation of minority groups for our own reorganization of medical service. I do not like to

feel that all the agitation can be blamed to certain members of these groups, who have much ambition and little regard for the public weal. I feel that we are confronted with two great principles of social order. I call one Americanism, the other Socialism. I understand by Americanism, the recognition of equal political opportunity, and a recognition of physical and mental inequality that is biologically inevitable. I believe the words of a former President of the United States, that "we, the people of the United States, must support our government, but we, the people of the United States, are not supported by our government."

THE TUSCOLA PLAN

Almost a year ago Dr. C. N. Race, my associate, and I began the study of the cost of medical care for indigents in Tuscola County. We examined with great care all bills that had been paid by the county for three years past. We determined the financial status of a great many patients that had been cared for by the taxpayers' money in and outside the county. We were astounded by the number of patients, who in the county were considered far above the indigent class, receiving medical and surgical care, free, outside the county. We were also shocked by the amounts of these bills, for we realized that work was being done for county patients at costs that were well above what we were receiving from our pay patients.

The resultant action of the Board of Supervisors of Tuscola County has been the outgrowth of our research on costs and the collaboration of Dr. I. D. McCoy. The willingness of the Supervisors to cooperate with the medical profession has been of great assistance. They are anxious to save money for the taxpayer. They want the best possible medical care with the least burden to the country. We of the profession want to preserve medicine for the people we serve. I think the ten principles of the A. M. A. embody what we all want.

1. The welfare of the patient is of primary importance.
2. The unity of the medical organization must be preserved.
3. Free choice of physician must be guaranteed.
4. Opposition to unfair competition among physicians must be maintained.
5. Sacrifice of quality of service through action of commercial competition shall not be tolerated.
6. Direct or indirect solicitation of patients through paid agents by whatever name or otherwise cannot be permitted.
7. Full responsibility for the determination of all questions of professional qualifications and ethics should be vested in the medical organization.
8. Compensation to physicians should be adequate for competent service.
9. Preventive and preclinical medicine must not be neglected.
10. Any change in the method of administering medical care should be preceded by careful and thorough study by organized medicine.

TUSCOLA COUNTY PLAN

THIS AGREEMENT made this day of November, 1932, between the Tuscola County Medical Society, party of the first part, and the Tuscola County Poor Commission, party of the second part.

WITNESSETH: The party of the first part will render to poor and needy residents within the boundaries of Tuscola County, all medical and surgical work, including medicine and dressings outside of the Hospital, with exception of cases of tuberculosis, insanity or deep therapy (X-ray and Radium). Consultations to send patients to Ann Arbor or State Hospitals or Hospitals outside of Tuscola County, will consist of three doctors and the Supervisors of the Township in which the patient resides, or a member of the Tuscola County Poor Commission. All indigent patients will only be hospitalized on consent of the local Supervisor or Superintendent of the Tuscola County Poor Commission. All charges for professional services rendered by Doctors while patients are in the State Hospital at Ann Arbor will be paid by the party of the first part.

In consideration for any work performed by the party of the first part for indigent medical care during the period

from November 1, 1932, to November 1, 1933, the party of the second part hereby agrees to pay to the party of the first part the sum of Seventy-five Hundred Dollars (\$7,500), to be payable in twelve monthly installments and divided among the members of the Tuscola County Medical Society, exclusive of the members of the Staff of Michigan Farm Colony for Epileptics.

Hereafter and while this agreement is in effect no member of the party of the first part shall receive any other compensation from the party of the second part for services rendered by said first party to any indigent resident of Tuscola County for medical services, nor shall the County of Tuscola be liable in any manner for any such services. It is also understood by the parties hereto that the term "indigent patients" above referred to includes any patients resident at Tuscola County Infirmary.

It is the inherent right of a doctor to exercise discretion as to whom he shall give medical treatment.

Signed

It is a matter of mutual agreement between the Board of Supervisors and the Medical Society that there will arise from time to time situations that could not be foreseen. It is the desire of both these groups to cooperate in every way possible. It is mutually understood that the fundamental principles behind this movement is to place more responsibility upon the individual and relieve the burden of the taxpayer, before taxes become governmental confiscation of property. Technically there are no indigent persons. Each patient is under the same obligation to pay for the care he receives as any other patient. The doctor is under the same obligation to each of his class of patients. It is recognized that there is an inevitable discrepancy between the value of work done and the pay received. The above arrangement is an attempt to compensate.

The Society recognizes the need for a firmly united group, and, to promote the welfare of the whole, is dividing the money equally among its members. As a means to insure better attendance at the medical meetings it has been provided that a fine of \$5.00 be withheld from each member's county check if absent without satisfactory excuse. This feature is helping to build a strong, friendly, and firmly united medical society. We are stimulating an interest in Medicine that cannot help but benefit our patients as well as ourselves.

IRON AND COPPER IN TREATMENT OF ANEMIA IN CHILDREN

As there is still some controversy in the literature as to the effects of iron in the treatment of anemia in children, it occurred to Milton Smith Lewis, Nashville, Tenn., that it was of considerable importance to determine whether the effect of iron could be enhanced by the addition of copper, and it was felt that a study of the therapeutic action of these two elements may help to demonstrate their value or lack of value as possible therapeutic agents in the treatment of anemia in children. It was found that iron and copper given in combination to thirty-four children with nutritional and secondary anemia was more effective than iron given alone. This was particularly noticeable in the nutritional series. —*Journal A. M. A.*

MEMBERSHIP SOLIDARITY

"Much depends on how the medical profession acts to meet the present crisis. Only by united action can we hope to weather the storm and preserve our proven principles." Membership affiliation of every eligible doctor should be striven for by every county society. United membership support should be subscribed to all of our policies. There must be no evasion or independent action. Your individual future depends upon your adherence to all the actions and activities of your county society. This is vital to your own personal welfare.

COMMUNICATIONS

A GOOD RESOLUTION

WHEREAS, the recent report of the Committee on the Costs of Medical Care has provoked much thought and discussion on the part of the profession and the lay public; and

WHEREAS, a striking difference in principle is evident between the Majority Report and the Minority Report; and

WHEREAS, grave fears are being entertained regarding the dangers that might result to the public in the application of the plans recommended in the Majority Report; therefore, be it

RESOLVED, that the Wayne County Medical Society go on record as approving the principles laid down in the Minority Report, and that the signers of said report be notified of this action; and be it further

RESOLVED, that the Minority Report be placed in the possession of local lay and press organizations with the recommendations of the Wayne County Medical Society.

THIEF WARNING

Dec. 1, 1932.

Michigan State Medical Association.
Gentlemen:

Physicians' microscopes in Detroit and surrounding towns are being stolen systematically.

The thief enters offices during the noon hour when attendants are absent.

He uses master keys for Corbin, Yale and probably other locks.

He is familiar with mechanical stages, sub-stages, microscope carrying cases, etc., disconnecting them for removal.

Gold is being stolen from dentists' offices by apparently the same man.

A suspect is 5 feet 9 inches in height, weighs 140 pounds, has black sleek hair, dark brown eyes, dark complexion giving impression of German type, but speaks perfect English. He claims to be a veteran (gives his age as forty-two) and asks for a shot of morphine, at times carrying a crutch and cane to support a claim of leg abscess.

I suggest the profession be warned through the medium of the State Medical Journal.

Very truly,

H. B. BRITTON.

GOITER PRIZE

Michigan State Medical Journal,
Grand Rapids, Mich.

Dear Sirs:

The American Association for the Study of Goiter, for the fourth time, offers Three Hundred Dollars (\$300.00) as a first award, and two honorable mentions for the best three essays, based upon original research work on any phase of goiter presented at their annual meeting in Memphis, Tenn., May 15, 16 and 17, 1933. It is hoped this will stimulate valuable research work, especially in regard to the basic cause of goiter.

Competing manuscripts must be in English and submitted to the Corresponding Secretary, J. R. Yung, M.D., 670 Cherry St., Terre Haute, Indiana, U. S. A., not later than April 1, 1933. Manuscripts arriving after this date will be held for the next year or returned at the author's request.

The First Award of the Hamilton, Ontario, Canada, 1932 meeting was given Donald McEachern,

M.D., Johns Hopkins Hospital, Baltimore, Md., "A Consideration of the Mechanism of Hyperthyroidism based upon its Effect upon Cardiac and Skeletal Muscle."

Honorable mentions were awarded A. B. Gutman, M.D., Presbyterian Hospital, New York City, "The Effect of Administration of Iodine on the Total Iodine, Inorganic Iodine and Thyroxine Content of the Pathological Thyroid Gland," and Lieut. Col. H. Stott, M.R.C.P., I.M.S., Dean Faculty of Medicine, Lucknow University, Lucknow, India, "The Distribution and Cause of Endemic Goiter in the United Provinces."

The Association will greatly appreciate your giving the contents of this letter full publicity, especially among those interested in research work.

Faternally,

J. R. YUNG, M.D.,
Corresponding Secretary.

GENERAL NEWS AND ANNOUNCEMENTS

Read the County Society news. You will learn interesting county activity.

Dr. H. J. Pyle, Grand Rapids, was elected chief of staff of Blodgett Hospital.

Your annual dues are now payable. Assist your local secretary by mailing him your check today.

Dr. T. D. Gordon returned Christmas week to his practice in Grand Rapids, following a six weeks' vacation in California.

Dr. Henry Perry, Dr. Duncan Cameron and Dr. J. G. Rulison were elected to serve in the House of Representatives of the present legislature.

Dr. Ferris N. Smith, Grand Rapids, held an operative clinic and read a paper on sinus infections before the Philadelphia Society on December 7.

Dr. C. A. Neafie of Pontiac, Councillor for the Fifteenth District, Michigan State Medical Society, has been elected President of the Oakland County Medical Society.

Dr. Morris Fishbein, editor of the *Journal of the American Medical Association*, addressed the Calhoun Medical Society on December 6 on the subject of "The Present Trend of Private Practice."

A musical tea was held Sunday afternoon, December 11, 1932, from three to five o'clock, at the Wayne County Medical Society Club rooms when the Woman's Auxiliary of the Society presented the membership with a Steinway piano.

A fourth branch of the Wayne County Medical Society has been organized, namely the Dearborn Medical Society. The other three are the East Side, West Side and Highland Park. These are all branch societies of the Wayne County Medical Society.

Following the completion of the work of the Committee on the Cost of Medical Care a large Advisory Public Relations Committee has been organized consisting of physicians throughout the United States. The midwest is represented by the following from Michigan: James D. Bruce, M.D., Ann Arbor; J. H. Dempster, M.D., Detroit; Carl F. Moll, M.D., Flint; H. W. Plaggemeyer, M.D., Detroit; J. M. Robb, M.D., Detroit; William J. Stapleton, M.D., Detroit, and John Sundwall, M.D., Ann Arbor. The members of this committee are not committed to the approval of the committee's recommendations. The object of the Advisory Public Relations Committee is to secure the thoughtful consideration of the large amount of data collected by the research workers during the past five years.

Dr. Emil Amberg, who is the editor of the *Rainbow*, a publication of the Detroit League for the Hard of Hearing, advocates the extension of the teaching to the smaller and therefore less favored localities distant from Detroit.

"We think, he says, that a great deal can be accomplished by organizations which penetrate into the remotest hamlets. This can be done by considering every league in a large city a central station from which the wholesome influence should radiate through substations. Substations could be established in smaller communities. These could be visited, at stated intervals, by a lip-reading teacher who travels from substation to substation, and who could also coöperate with the members in the sense of the larger leagues. May the time come when no deafened person must go without the help of a lip-reading teacher and without the advice and assistance of a League of the Hard of Hearing."

The outstanding event of the year for the Wayne County Medical Society will be the annual Beaumont Lectures to be held at the Wayne County Medical Society auditorium, Maccabees Building, corner Woodward Avenue and Putnam, Detroit, on January 30 and 31, 1933. The Society has procured as lecturer, Professor Walter B. Cannon, Professor of Physiology of Harvard University. Professor Cannon will deliver three lectures, the first on Monday evening, the second Tuesday morning from eleven o'clock to twelve o'clock, and the third Tuesday evening. The event marks the 100th Anniversary of the publishing of Beaumont's epoch-making work on physiology of digestion. Special reference will be made to this event and a Beaumont exhibit will be shown at the Society's club rooms, corner Canfield and Woodward. Every member of the Michigan State Medical Society is invited to attend. To those who have attended any of the series so far of the Beaumont lectures a second invitation will not be necessary since they know the excellent quality of the series without any exception.

On December 5, 1932, a very interesting meeting and dinner was held at the Brown City Hotel, Brown City, Michigan, when the Huron and Sanilac County Medical Societies together with Lapeer, Tuscola, St. Clair met in joint meeting. The dinner

among other things consisted of venison and turkey. After dinner Dr. T. F. Heavenrich of Port Huron, Councillor of the District, spoke and turned the meeting over to Dr. J. E. Campbell of Brown City, who presided. Dr. Angus McLean of Detroit was introduced and gave an excellent talk on the cost of medicine and medical education. Dr. Carl F. Moll of Flint led in the discussion, followed by Dr. Paul R. Urmston of Bay City. Dr. Louis J. Hirschman of Detroit presented a paper which was discussed by Dr. McLean on the subject of "Significance of Ano-Rectal Pain." Dr. H. E. Randall of Flint also spoke. Dr. J. M. Robb, President of the Michigan State Medical Society, spoke upon organization opportunities in medicine. He also dwelt on the report of the Committee on the Cost of Medical Care which had recently appeared. The Committee on Preventive Medicine was discussed in regard to the functions of county societies. He advised all physicians to become more interested and to inform themselves on preventive measures. Dr. McLean closed the discussion. There were in all one hundred and five doctors present from the following counties: Bay, Saginaw, Genesee, Tuscola, Huron, St. Clair, Lapeer, Sanilac and Wayne.

THE WAY OUT

We are doon intil th' trenches o' depression's aw'fu' war,

An' oor hope an' aspiration, isna even close tae par,
An' oor freen's seem tae forget us, an' some ithers
pass us by,

An' oor e'en hae nae been lookin', through th' pin
holes in th' sky.

We are pullin' an' atuggin' wi' mud upon oor shoon,
An' oor loaded cart o' overheid, wull swamp us
verra soon,

Oor clodhoppers wull be stickin' in th' mire bye an'
bye,

If we dinna start apeekin', through th' pin holes in
th' sky.

Oor politics an' business an' oor auld religion too
Are floonderin' 'roon upon th' rocks, oor anchor's
draggin' noo,

An' a shipwreck's nigh upon us, we've nae dock at
which tae tie,

But oor harbor's seen, by lookin', through th' pin
holes in th' sky.

We've nae been lookin' upward, but doonward tae
oor feet,

An' oor people canna live like that, they're sure tae meet
defeat

If they're lackin' o' a vision an' a faith that's standin'
by,

An' forgettin' tae be lookin' through th' pinholes
in th' sky.

There are bonnie roses bloomin' in th' gairdens
'roon th' toon,

There's a sunshine silver linin' tae th' clouds whas
hinging' 'roon,

An' oor rescue is wi'in us, an' oor hope an' vision lie
In oor lookin' up ayont us, through th' pin holes in
th' sky.

Ah weel, Guid nicht.

—WEELUM.

SOCIETY ACTIVITY

THE COUNTY SOCIETY

In the democratic plan of medical organization, the County Medical Society is the basic unit. It is the only door through which admission may be secured to the State and American Medical Association. It is the sole judge of the applicant's membership qualifications. It is the local representative of the State and National organizations. It is the most important unit and therefore has certain very definite and grave responsibilities. When the County Society fails, the State and National groups fail. The State society is strong, active, and achieving only when its component County units seriously assume and discharge their responsibilities. The parent organizations are very dependent upon their basic units. Too often is this fundamental fact overlooked or ignored by the members and officers of County societies.

For some time, several years, there has been reflected an attitude that is the reverse of this organizational plan. County units have expected and still do expect their State Society to accept and discharge local obligations, initiate and assume local activity, solve and correct local problems and be a protectorate for local members. Likewise, State organizations have been looking to and asking that the American Medical Association assume and discharge state and county obligations. We have wandered far into the realm of paternalism and expect paternalistic aid in our professional work, and livelihood. This expectancy should be changed to an attitude of contributing support and renewed local effort. The sooner this is realized and effected the speedier will all of our pressing problems be satisfactorily solved and the encroachments and attempts of lay and governmental control of medical practice be defeated.

The problems and practices of every county are local. Their solution is local. There is no national or state panacea that is applicable for every county, district or state. Local conditions, industries, population, climate, are so varied that what may apply to one county, city, or state would not and could not be applied to another city, county, or state. This fact should ever be remem-

bered when the question is raised as to why the State Society or the American Medical Association does not do something. *Solution and activity is a local responsibility.*

Your State Society and the American Medical Association are not inactive nor do they shun responsibilities. In affairs and in problems that involve the state as a whole, your State Society is alert and is aggressively active in conserving and enhancing the collective interests of the profession and the individual state interests of the doctor. This is evidenced in the efforts of your Council, officers and state Committees and the results of their efforts are imparted in their reports which are frequently published in the JOURNAL. Your State Society also collects information and data, the experience and results of other units, and makes them, together with suggestions and advice, available to County units to aid in solving local problems. The state formulates general principles and policies and aids in moulding them to apply to your specific needs. Remember your State Society is energetically active in your behalf but it cannot come into your office or field of practice and assume to discharge your personal responsibilities or those of your County Society. The State Society can and does help but the local effort *must be made by the local individual or unit*—the County Society. Ever be mindful of that fundamental principle. Our future will become brighter just as soon as that fact is realized and we cease to assume the attitude of expectancy and aid from the parent body whose functions and responsibilities are *state or national* and *not* local.

What specific responsibilities devolve upon a County or District Society? In this observation they can only be re-enumerated—space will not permit, at this time, detailed specifications, but, should they be desired, inquiry will secure outlined details:

1. Enrollment of every eligible member and maintaining his active interest in your County Society.

2. Formulation of local principles and policies, maintaining their observation by every member.

3. Establishing and maintaining relationship and contact with local authorities and establishing agreements and rules to be observed and applied in all matters pertaining to local health and public welfare.

4. By contacting local authorities, arrive at an agreement as to conditions that will govern the rendering of medical care to the wards of your city or county.

5. Public education in regard to health, preventive medicine and those measures that will conserve individual health.

6. Participating and advisory interest in all community projects and activities and assuming leadership in everything related to health and medical care.

7. Conducting County meetings and clinics that will aid your members to remain abreast of scientific progress and reflecting the best and highest type of medical care in their daily practice.

8. Assert collective influence in the administrative affairs of local hospitals and clinics.

9. Foster loyalty to your County, State and American Medical Association and their objectives. Dissuade allegiance to the many existing extraneous medical and pseudo-medical organizations, most all of which exist for ulterior and mercenary benefits to a small, select group of so-called leaders. Be not misled by pseudo-leaders or publishers and editors of questionable medical publications. Do not expend and squander effort and energy along the by-paths or diverging streams.

10. Foster fraternalism and the spirit of helpfulness. The principles of medical ethics have been and still are the golden rules of practice and association. Observe them.

When every County Society manifests acceptance and application of these society obligations, medicine and the profession will emerge from the present crisis with honor maintained, confidence restored and the respect of all mankind. Solution of every problem will be satisfactorily effected.

A national, state and local challenge is before you. Accept it and through united effort and loyalty demonstrate anew that we who today constitute the medical profession continue to be worthy of the trust and confidence of the body politic.

Your State Society will aid in every possible way. The final answer, however, rests with the officers and members of every County Society. Will you accept the challenge? Will you revive intensive action in your County? Will you discharge the re-

sponsibilities that belong to your County Society?

ABSTRACT OF DR. MORRIS FISHBEIN'S LECTURE AT BATTLE CREEK, DECEMBER 6, 1932

The annual meeting of the Calhoun County Medical Society held December 6, 1932, at the Athelstan Club, was the climax of an unusual series of medical programs held by this Society throughout the year. Dr. Morris Fishbein, Editor of the American Medical Association Journal, delivered one of his ever inimitable, forceful and scintillating orations on the "Present Trends in Medical Practice." He based his talk largely on the recent report of the self appointed committee for a five-year study of the costs of medical care. He said that the findings of the majority of this committee headed by Harry H. Moore, Ph.D., did not come as any surprise to the Medical fraternity, who have watched the trend of the studies in the bulletins sent out from time to time, and viewed with amusement and regret the fact that over a million dollars of some one's money has been spent only to report the personal bias of its director as expressed in his book, "American Medicine and People's Health," which committed itself to insurance schemes as well as state medicine.

Dr. Fishbein gave many interesting side lights on the personnel of this committee, who, when all is said, do not represent an activity of any federal or state fact finding commission, but has come about through the pet scheme of one E. A. Filene, who was chiefly responsible in providing the money with which to promote the work.

It would seem, if economy in medical care was the real object of the study, that more stress should be placed on the family physician as the center of the picture, since 85 per cent of all sickness can be diagnosed and treated by the family doctor with only the help of such material as can be carried in his hand bag.

The million dollar expense of this committee has not dislodged the family doctor from his important position as the intimate private healer of most of the affections of mankind, and no one believes that he, the family doctor, contributes very much to the high cost of medical care. What has really brought this subject into the limelight is

the 15 per cent of illnesses which usually require the help of some form of specialization.

Forty years ago, aside from the doctors in practice there were in addition a few trained nurses contributing to the expense of sickness. Hospitals had not become popular. Today there are, besides the doctors and specialists, X-ray personnel, physical therapists, hospital overhead, etc.—a vast army, all of whom must live, and their services are required by the fact that the science of medicine has expanded and is more exacting.

The majority report of this committee would place medical costs on a group payment basis through insurance or taxation, or both, without abolishing private practice on an individual basis for those who prefer it.

The minority report recommends that the care of the indigent by government agencies be expanded with the object of relieving the medical profession of this burden. Even this goes a long way toward state medicine but there seems to be no other way out. But physicians who are paid by the state for the care of the indigent will be able to lessen their fees for those able to pay regular fees.

Physicians are urged to familiarize themselves with the report of this committee. They will find on the side of the majority signing this report, forces representing the great foundations, public health officialdom, social theory, if not socialism and communism: on the other side is the organized medical profession willing to await an orderly evolution guided by controlled experimentation, and not be misled by utopian fantasies which would cause them to lose their identity by placing them under political administration.

The public will find, to its cost, that such schemes do not answer the desire in each human breast for human kindness, forbearance and understanding.

H. B. K.

COST OF MEDICAL CARE REPORT

After one has carefully read the report of the Committee on the Cost of Medical Care, the reaction recorded is one of disappointment. After five years of alleged study and the expenditure of over a million dollars, the Committee fails to advance tenable, practical or applicable plans or methods

that will bring about the solution of the problems involved in the providing of medical care to those in the lower earning brackets or the indigent.

Recommendations made, in many instances have been proven inefficient and unavailing. Certain recommendations involve the expenditure of millions of dollars to be raised by taxes. Other suggestions have been proven valueless in other countries and in certain parts of this country. Many of the cited studies are not typical or of sufficient broadness to warrant any sound conclusions or to serve as a basis for adoption.

Over two years ago it was predicted that the final report of this committee would fail to present recommendations of merit or plans that would accomplish solution of problems that are involved. This prediction was premised on the fact that the Committee was composed of individuals who held preconceived ideas, were biased, represented groups with avowed policies or who lacked the necessary knowledge of medicine, bedside practice and experience. The prediction is further supported by the points raised in the minority report. The minority report should receive the most careful consideration of all who are concerned in the rendering of medical care and making it available.

The public must now turn to the medical colleges and the profession for guidance, solution and leadership in solving the country's problem of providing adequate medical care for all peoples. This is as it should be, for it is a distinct obligation of the profession to make medical services available under conditions satisfactory to patient and physician. The profession will assume this obligation and responsibility. Steps toward that end have been taken and will now be rapidly developed from organizational studies that have been under way for over two years.

The safety of the public in matters of life and health rests upon the initiative of the medical profession. The history of the profession records that it has never been unmindful of the welfare of the public.

It should further be remembered that there exists a primal fundamental: Medical care, medical practice is secondary to, and dependent upon, the progress of the medical profession. Let the profession fail and medical practice fails, also. Medical practice does not stand alone and for that reason

cannot endure unmolested without the protection of the medical profession. This fundamental has been overlooked and for that reason the five years of study and final report, together with other impinging facts and factors, causes great disappointment.

Confident expectation may be placed in the profession presenting acceptable solution if the public and local officials will heed its advice. Final applicable solution can only emanate from this source.

COUNTY SOCIETY OFFICERS

A new year witnesses the induction into office of many new County Society officers. Congratulations are extended to these new county officers upon their opportunity to serve their fellow members and community in return for the honor accompanying the office. Service and work should be the slogan of every officeholder and stress is laid upon work. Without work and expenditure of personal effort, yours will be an idle, non-accomplishing fiscal year.

Elsewhere in this issue the obligations and responsibilities of the county society are set forth. It is sincerely desired that new and old officers will seriously consider and adopt the recommendations therein made. Initiate the program for your county society and labor hard and continuously to establish it. Doing so will assure you a most successful year.

Your state officers stand ready to help. Command the state secretary's office for any and every assistance it can accord you. Your inquiries will be welcome and all its facilities will be at your disposal. The basic desire is that every County Society will, during 1933, obtain the greatest possible benefits obtainable for its members, individually and collectively. Success or failure rests with County officers. Yours is the blame if the year records idleness and failure to achieve. Embrace the opportunity that confronts you—there is a heap of satisfaction, happiness and reward for attaining definite objectives. May yours be high.

1933 DUES

By council action a rebate of \$1.25 is authorized on 1933 annual dues. The amount of dues for 1933 will therefore be \$8.75 per member.

Because of financial burdens assumed and

monthly obligations to be met in connection therewith, prompt payment of dues is urged.

COUNCIL MEETING

The Council of the Michigan State Medical Society will convene in regular mid-winter session in the Statler Hotel, Detroit, at 9:30 a. m. (E.S.T.), on Thursday, January 12, 1933. Such business as may properly come before this body will be transacted.

B. R. CORBUS, *Chairman.*

Official

F. C. WARNSHIUS, *Secretary*

JEOPARDIZING ALL INTERESTS

Recently, information was received imparting that a certain named member bid and agreed to make physical examination of employees of a certain employer for seventy-five cents (75c) for each examination.

Such a proposal involves infraction of "Ethics," is contract practice, and violates regulations governing medical licensure. It jeopardizes the best interests of employees, employer, the doctor and the entire profession. It can not be condoned or justified.

These are trying days. The financial stress and reduced income create temptations. To yield, to ignore ethics and principles, cannot help but create still more serious situations for the individual and the entire profession. It is unfair competition; lowers morale, and destroys confidence. All interests are jeopardized.

Our collective and individual future welfare, the future of medicine and confidence can only be assured by unswerving loyalty to the principles of ethics. Good medical practice rests upon the progress and well being of the profession. Undermine it and you undermine medical practice and service. To cut fees, to bid for volume, to discredit fellow practitioners is debasing and must not be initiated.

Hold fast to all of our medical principles which the years and centuries have demonstrated as being for the best interests of public and profession alike. Yield not to the proffers that may appeal for the moment. Support the union of our individual interests. Better times are at hand but they will not come if you jeopardize our future by untoward individual acts.

MALPRACTICE SUITS

One would hardly think that a woman would bring a suit against a doctor because she felt that she should have been delivered by cesarean section because her labor was protracted—yet such a suit was recently filed.

In the use of a therapeutic lamp one would think that a sun-burn would be the worst that could happen—but recently a celluloid comb caught fire and severe burns and loss of hair occurred. Caution: Be personally sure all combs and pins are removed.

When engaged for obstetrical care and you are away it is your business to provide for attendance.

Be guarded to whom you make reports of physical condition. Recently a doctor made a report to a factory nurse. The man lost his job. He sued the doctor and obtained a judgment for libel.

If you make an examination for an insurance company be sure the patient so understands. Never answer on an insurance blank the questions relative to past illnesses or present conditions that are not related to the immediate claim. You become liable if you do, without the patient's written consent. Never report to an insurance company any operative findings of a former patient applying for insurance.

No instructions given to a minor will protect you in a suit.

Hospital counts of sponges is no defense. The surgeon must know that all sponges are accounted for.

These are but a few of the liabilities that confront a doctor. They reveal the need for extreme care in these days when suits are started to secure easy money.

Do not lapse in your membership. You know not when you will be called to defend yourself.

FINAL REPORT OF THE COMMISSION ON MEDICAL EDUCATION

This commission was organized in 1925. Its report is now available in a 560 page bound volume obtainable from Willard C. Rappleye, Director of the Study, 630 W. 168th St., New York. It is well worth securing for it sets forth in reliable manner findings and facts that have pertinent relationship to economic conditions. It is so

far ahead, in its data and recommendations, that the report of the Committee on the cost of medical care fades way into the background and becomes useless. We started out to quote extracts but they became so numerous we had to desist. They consisted of guiding fundamentals that must be observed in every endeavor that seeks to bring about an adjustment in providing adequate medical care for the public.

The recommendation is made that all who are related or engaged in programs of readjustment should secure this report and study it carefully. It will be a most helpful and guiding authority.

A splendid service has been rendered by this Commission. Their efforts will go far in aiding medical colleges and the profession to satisfactorily reply to the challenge given them since other sources have failed. "The medical profession is the trustee of the essential knowledge and has the personnel to solve a large national problem. Possessing that knowledge it will make a valuable, vital contribution to public welfare."

"Medicine will occupy its proper place in society to the extent that it provides leadership and properly trained personnel for the program of medical service which should be built upon thoughtfully conceived plans of medical and postgraduate education, proper organization of the profession and the advocacy of unselfish and courageous public and professional policies."

MEMBERSHIP AND FELLOWSHIP

There continues to be considerable, yet unnecessary confusion in the minds of many of our members in regard to Membership and Fellowship in the American Medical Association.

Membership: By virtue of your membership in your County and State Medical Society, you are automatically a member of the American Medical Association. You pay no national dues. You benefit indirectly from national activities. You are not eligible to attend national meetings, participate in sectional meetings or have an office or voice in the national organization. In reality you are an associate.

Fellowship: To become a fellow you must fill out a fellowship application, have it endorsed by the state secretary and send it, with the annual dues of seven dollars, to the national secretary. Then and not till

then do you become a fellow. The benefits of fellowship are: Receiving, weekly, the *Journal of the American Medical Association*, participation in national meetings and section deliberations, and eligible to hold office or become a delegate from your state.

A goodly number of members believe they are fellows because they subscribe to and receive the A. M. A. *Journal*, for which they pay an annual subscription of seven dollars. They are in error. They are merely subscribers. They have never filled out a fellowship application and hence are not a fellow. Latest reports show 946 Michigan subscribers who are not fellows. They could be and should be fellows, without additional expense, if they would secure and fill out a fellowship application and they would continue to receive the A. M. A. *Journal* to which they are now merely subscribers.

These members are urged to secure application blanks from their county secretary. Become a fellow and enjoy all its benefits.

MINUTES OF THE EXECUTIVE COMMITTEE OF THE COUNCIL

The Executive Committee of the Council of the Michigan State Medical Society convened in Grand Rapids on December 7, 1932, at 6:00 P. M.

Present:

B. R. Corbus, Chairman

Henry Carstens

C. E. Boys

Henry Cook

Harlen MacMullen

President Robb

Secretary Warnshuis

1. After due consideration the Council designated Thursday, January 12, 1933, at 9:30 A. M. as the time for holding the mid-winter session of the Council in Detroit, Michigan.

2. Considerable discussion was devoted to the petition requesting a special meeting of the House of Delegates. On motion of Cook-Boys, the President and Chairman of the Council were instructed to ascertain when the Committee on Survey of Medical Agencies would complete its report, and upon receiving that information they were authorized to determine the time and place for the holding of the special meeting of the House of Delegates.

3. The Secretary was directed to arrange

for a meeting of the Joint Committee on Public Health Education and the Council at the time of the Mid-Winter Session of the Council in Detroit on January 12, 1933.

4. The Secretary was directed to call a meeting of the section officers on the evening previous to the Council meeting in Detroit for the purpose of arranging the details of the scientific program for 1933 Annual Meeting.

5. The Secretary was instructed to advise section officers that they nominate one guest speaker for their section and that such nomination be transmitted to the Executive Committee for approval. Sections may make application for additional guest speakers but their approval will be dependent upon the decision of the Council as to whether or not the incurring of increased expenses would be justified, and also whether or not such additional guest speakers could participate in the program of the general sessions of the scientific sections.

6. On motion of Boys-Cook, the Secretary was authorized to accept notes for 1933 dues from those members whom the officers of county societies recommended as meriting such credit consideration.

7. The Finance Committee composed of Dr. H. Carstens, Henry Cook, and Harlen MacMullen, held a meeting in the afternoon to consider the 1933 budget. The Chairman, Dr. Carstens, presented a tentative budget for 1933. After discussion the Secretary was directed to send a copy of this proposed budget to each member of the Council for his consideration and that final action and approval of the budget and such amendments as may be suggested be deferred until the Mid-Winter session of the Council.

8. Dr. Cook recommended that the Secretary arrange for a definite campaign on the part of county societies who, during a certain designated week, shall make a specific and active endeavor to secure the membership affiliation of all doctors in their county who are eligible to membership. The recommendation was approved.

9. Upon motion of Cook-Boys, the Publication Committee and the Secretary were requested to confer with the officers of the Michigan State Dental Society for the purpose of considering the desirability and advisability of combining the Michigan Dental Journal with the Journal of the Michigan State Medical Society, and to report the re-

sults of their conference to the Mid-Winter Session of the Council.

10. President Robb and the members of the Executive Committee discussed the report of the Committee on the Cost of Medical Care. Upon motion duly made, the Executive Committee endorsed the editorial appearing in the Wayne County Society Bulletin as expressive of the attitude and opinion of the Executive Committee, and recommended that this editorial and a synopsis of the report of the Committee on the Cost of Medical Care be published in the State Journal and that county medical societies be requested to take suitable action to record their endorsement of the Minority Report and the principles therein set forth.

11. President Robb announced the appointment of Dr. F. W. Garber, Sr., of Muskegon to fill the unexpired term of Dr. Ray Stone on the Joint Committee of Public Health Education.

12. President Robb announced the appointment of the following committee on Preventive Medicine:

L. O. Geib, Chairman, Detroit
C. T. Ekelund, Pontiac
Roy Holmes, Muskegon
Stuart Pritchard, Battle Creek
J. J. O'Meara, Jackson
C. R. Keyport, Grayling
L. F. Foster, Bay City
F. B. Miner, Flint

13. On motion of Carstens-Boys, \$1,000 was appropriated for the expenses of the Committee on the Survey of Medical Service and Health Agencies.

14. The Secretary presented a communication from the Council of the Wayne County Medical Society relative to the construction of a Northern Michigan Tuberculosis Sanitarium as provided for at the last session of the Legislature. Upon motion of Carstens-Cook, the communication was directed to be sent to the Legislative Committee for investigation and recommendation as to what action should be taken by the Council.

The Executive Committee adjourned at 11:00 P. M.

F. C. WARNSHUIS, *Secretary*.

MONTHLY LETTER

Presidents and Secretaries,
County Medical Societies
Gentlemen:

You who are in contact with your local profession sense the unrest that exists in regard to present

practice and the future of medicine. There is much discussion and sometimes, with but little thought, plans for solution of all problems are advanced and advocated. This unrest is keenly sensed at your State and the American Medical Association offices by reason of the numerous reports of this or that plan, scheme or project advanced. Likewise, lay groups, companies and corporations are promoting clubs, sickness insurance and flat rate medical care propositions. Doctors are being solicited and offered appointments at low monthly salaries to do an unknown amount of professional work in these proposed groups.

At a Conference held in Chicago on November 17 and 18, called by the American Medical Association and attended by President Robb, President-Elect Le Fevre, Chairman Corbus and your Secretary and officers from every State Society, the existing situation was discussed in detail. One main conclusion that was reached was that no general solution or policy could be formulated that would be applicable to the entire country and to every county. It was accepted that the solution was the responsibility of *every County Society to work out its own local problem*. That guiding leadership should be assumed by every County Society.

It was further agreed that in formulating solutions and dealing with local situations and local problems the principles of our Code of Ethics should be a fundamental guide. An amplification of these principles was compiled and a copy is enclosed.

It was declared that contract and insurance practice was a violation of ethics.

The minutes of the Conference will be imparted in an early issue of the Bulletin of the American Medical Association. The Department of Economics of the Journal of the American Medical Association from week to week will impart pertinent facts and advice. The December 3 issue of the Journal of the American Medical Association will contain the Majority and Minority Report of the Committee on the Cost of Medical Care.

As officers of your County Society you are urged to devote *active* and dominating effort to institute and press the following leadership action:

1. Cause your Committee on Public Relations to survey your county conditions and make recommendations for action.
2. Impress upon your members the imperative need for unity of action and observance of the principles of ethics. There must occur no division or individualistic action. A united stand is basic to the preservation of professional independence and to keep the individual doctor from becoming an employee of a lay group that seeks to exploit him and the profession for financial gain. Warn against the temptation proffered in the offer of a salary or the offer of a staff or club appointment. The profession individually and collectively must not sell out to lay control. Our future is dependent upon this vital fundamental. Officers should deeply concern themselves with maintaining membership solidarity and loyalty.
3. It is recommended anew that at every County Society meeting you arrange for a discussion of these local problems and the observance of the principles enclosed in formulating local policies. Inspire your members with the basic thought and purpose that each one has a definite personal responsibility in maintaining inviolate the ethics and ideals of his profession.

You who are officers must become active local leaders and joining your efforts with officers of every county society in this state and nation dominate the profession's stand in defeating every

movement that seeks to overcome our professional independence and change the existing sacred relationship of physician and patient. Be not misled by false leaders. Be not swayed by designing individuals. Do not yield to the pleadings of misinformed writers, promoters or editors of questionable publications.

The profession can meet and solve this emergency as it has many others in the centuries gone by and continue to maintain and hold public confidence and respect. The knell of the individual doctor, his independence and his right to earn worthy competence and individual pursuit of his practice and happiness will be prevented if your county society holds steadfast to organized medicine's policies and purposes.

Your State office will make available helpful information and guiding data. When in doubt write for information and suggestions. Your inquiries will be welcome and will receive prompt attention.

Remittance blanks for 1933 dues are being mailed to all Secretaries. Remember the 1933 dues are \$8.75 per member.

Watch the State Journal for other important announcements and Council and Committee reports and call them to your member's attention.

Delay comment, criticism and action on the report of the Committee on Cost of Medical Care until the American Medical Association, Judicial Council and Trustees, your State Council and Committees have well considered its content. There will undoubtedly be considerable press publicity and comment inasmuch as a most competent publicity expert has been employed by the committee. Withhold all expressions till those who are capable to give sound advice digest the report.

Initiate efforts to secure 100 per cent membership affiliation in your county. Much depends on how the medical profession acts to meet the present crisis. Only by united action can it hope to weather the storm and preserve those proven principles which it knows to be best for the public and for its own members. This is the responsibility of your County Society.

Yours very truly,
F. C. WARNSHUIS, *Secretary*.

TWELVE POINTS IN THE PRINCIPLES AND POLICIES OF MEDICINE

Principles

1. Medicine is the trustee of society in the care of the sick and injured; its policies must always be governed by this fundamental fact.
2. The good of society must be the sole aim of its public policies and the good of the patient the first consideration in the relations between physicians and patients.
3. Medicine's first responsibility must be to see that its services are available to all men.
4. The public interest demands the most competent medical profession possible. Medicine must be an attractive profession to compete successfully with other professions for the ablest young men.
5. In the sense that every calling from which a living must be gained is a business, medicine is a business; it must accept the competitive conditions of practical life but, as a profession of high ideals, it must seek to prevent selfish commercialism.
6. Experience has shown that the vast majority of disease conditions afflicting man can be most satisfactorily and economically diagnosed and treated by a competent individual general practitioner.

Responsibilities

7. The services of medicine include (a) the prac-

tice of medicine; (b) the promotion of preventive medicine and the public health; (c) the fostering of research and the increase of knowledge.

8. Medicine's chief concern must be for the individual physician; the service rendered by individual physicians in the aggregate constitutes the great bulk of medical service. The quality of service which is given depends on the competency of the individual physician who gives it.

Rights

9. The medical profession asks for its practitioners: freedom of opportunity to develop to the limit of their individual capacities.

10. It asks a career of independence under conditions of free and dignified competition.

11. It asks remuneration sufficient for reasonable comfort for the individual and for his family.

12. In its ideals of independence, medicine has a right to control its own affairs. Its history of capacity and altruism justifies this claim.

WILL A SECRETARY GO TO HEAVEN?

If a secretary writes a letter, it's too long.
If he sends a postal, it's too short.
If he doesn't send a notice, he's lazy.
If he attends a committee meeting, he's butting in.
If he stays away, he's a shirker.
If he duns the members for dues, he is insulting.
If he fails to collect the dues, he's slipping.
If he asks for advice, he's incompetent.
If he does not, he's bull-headed.
If he writes his reports complete, they're too long.
If he condenses them, they are incomplete.
If he talks on a subject, he is trying to run things.
If he remains quiet, he has lost interest in the meeting.

Ashes to ashes,

Dust to dust,

If others won't do it,

The secretary must.

—The Wards, Over WBAP.

COUNTY SOCIETIES

CALHOUN COUNTY

At the annual meeting of the Calhoun County Medical Society held December 6, 1932, the following officers were elected:

President, Dr. Carl G. Wencke, Battle Creek; vice president, Dr. A. E. MacGregor, Battle Creek; secretary-treasurer, Dr. Harry B. Knapp, Battle Creek.

Delegates to State Society are Dr. C. S. Gorsline, Battle Creek, and Dr. A. T. Hafford, Albion. Alternates, Dr. W. L. Godfrey, Battle Creek, and Dr. A. D. Sharp, Albion.

Dr. Morris Fishbein gave the main address at the dinner meeting.

HARRY B. KNAPP, Secretary-elect.

GENESEE COUNTY

At the recent Genesee County Medical meeting, the following officers were elected for the years 1932-1933:

President, Dr. J. C. MacGregor; president-elect, Dr. R. S. Morrish; secretary, Dr. C. W. Colwell; treasurer, Dr. Vaughn Morrissey; medical legal officer, Dr. H. E. Randall, all of Flint, Michigan.

Delegates to the State meeting are: Dr. F. Reed, Dr. Geo. Curry, and Dr. Carl Moll, Flint, Michigan. Alternate delegates include: Dr. H. E. Randall, Dr. D. R. Wright, and Dr. Max Burnell, Flint, Michigan.

C. W. COLWELL, M.D., Secretary.

GRATIOT-ISABELLA-CLARE COUNTY

The November meeting of the Gratiot-Isabella-Clare County Medical Society and the Ninth District Dental Society was held in the Wright Hotel, Alma, Thursday, November 8, 1932. Thirty-five had dinner together, after which Dr. B. B. Pettit called the meeting to order and introduced Dr. U. Garfield Richert from Ann Arbor, who spoke for over one hour on the problems common to the physicians and dentists.

The doctor's talk was very instructive and would have to be heard to be appreciated. He explained the difficulties the State Board of Registration in Dentistry had with the unethical dentists, also related some of the problems in dealing with fraudulent advertisements of tooth pastes and mouth washes. The doctor then took up the relation of tooth infections to arthritis.

On behalf of the dentists and physicians present Doctor Pettit thanked Doctor Richert for his excellent presentation of this subject.

The meeting adjourned.

E. M. HIGHFIELD, M.D., Secretary.

The annual dinner of the Gratiot-Isabella-Clare County Medical Society for the members and their wives was held in the Wright Hotel, Alma, Thursday, December 1, 1932. Twelve members and nineteen visitors had dinner together at 6:30.

After dinner President Burt called the meeting to order and called for a report of the nominating committee. The Secretary read the report, which was as follows: For president—T. J. Carney; for vice president—A. D. Hobbs; for secretary-treasurer—E. M. Highfield; for delegate to the State Society—T. J. Carney.

The secretary read his report, which was as follows: Including this meeting we have met eleven times this year. We were addressed eight times by doctors from outside the county; once by Professor Kaufman from Alma College. Once we were shown pictures by Mr. Ricketts of the Petrolagar Company, and one program was addressed by our own members.

President Burt then introduced Dr. Berneta Block, who recently returned from Korea, where she was superintendent of a missionary hospital for four years. Doctor Block described her trip from the Golden Gate at San Francisco with a stop at Hawaii to the Capital of Japan and then by boat and rail to Soel, Korea, where she took charge of the sixty-bed hospital. She spoke of the difficulty of learning the language and passing the medical examination in Japan. Doctor Block also gave us many other interesting descriptions of the customs and habits of the people of Korea. One was conducting a confinement in a one-room cottage without chairs and the bed being on the floor with ten or more children and adults in the room and no ventilation—the windows not being made to open.

The doctor's talk was very interesting and proves what a self-sacrifice it is to be a missionary, and how grateful we should be that we live in the United States of America.

On behalf of the Society, President Burt thanked Doctor Block for her most interesting description of these Korean folk and bringing us this message.

The meeting adjourned.

E. M. HIGHFIELD, M.D., Secretary.

HILLSDALE COUNTY

On November 2, 1932, the Hillsdale County Medical Society met at the Ambler House, in Hillsdale, at 6:30 p. m., the Vice President, Doctor Mattson, in the chair.

After an excellent dinner served by the resident students in the Course of Home Economics of Hillsdale College, the Vice President called the meeting to order and the minutes of the last meeting were read and approved.

The Vice President then introduced the speaker of the evening, Dr. R. C. Jamieson, of Detroit, who addressed the meeting on "The Symptomatology and Treatment of Common Skin Diseases," illustrating his lecture by a large number of lantern slides.

He called especial attention to the various forms of eczema, classing them all together as dermatitis, later touching upon the various forms of ringworm and showing the difference between these and the eczematous inflammations or true dermatitis.

After illustrating the diagnosis of these diseases, he took up the treatment, discussing the usual washes and ointments; systemic medication where indicated, and especially stressed the value of radium and the X-ray in selected cases.

After full discussion of these topics he took up the consideration of ringworm and allied diseases, including so-called "athlete's foot." These diseases he said are caused by a fungus which must be destroyed before a cure can be achieved. Prominent in this field are washes of sodium hypochlorite, mercurials and mild X-ray; especially absolute sterilization of everything coming in contact with the foot; prevention by never placing the bare foot, if diseased, on any surface in the house, not even one's own room until cured.

Impetigo contagiosa, he stated, is very dangerous in babies and may be cured by ultra-violet ray; also by boric acid, with nutritious diet to build up the vitality of the child.

Doctor Jamieson was asked a great many questions which were fully answered and at the close he received a cordial vote of thanks from the society for his interesting and highly instructive lecture.

Following Doctor Jamieson's address, Doctors Van Scoick, Clark and Smith of Jackson, spoke of the effort being made in Jackson County to undertake an unassuming campaign of popular education as to the aims of the medical profession in its daily work in prevention, as well as cure of disease. The prevention of cancer was stressed; also, diphtheria, tuberculosis and all other preventable diseases; the importance of periodic medical examinations in those considering themselves well, and the dissemination of knowledge of the warnings of disease; the danger of self-drugging and the danger of too long continuation of many drugs popularly considered harmless, etc., the means of this campaign to be:

1. Lectures by members of societies where opportunity occurs and by other speakers
2. Articles in the public press
3. Demonstration of methods including Von Pirquet's tuberculosis test, the Schick test, etc., to be undertaken gratuitously by the societies from time to time

The response by the Hillsdale County Medical Society to these suggestions was most favorable and a proposal was made to form plans for such work at the next meeting of the society.

The meeting adjourned.

D. W. FENTON, *Secretary.*

IONIA-MONTCALM COUNTY

The annual meeting of the Ionia-Montcalm Medical Society was held at the residence of the Secretary, in Ionia, on Tuesday evening, December 13, 1932, at eight o'clock.

The following officers were elected for 1933:

President, Dr. Lloyd S. Dunkin, Greenville; vice

president, Dr. Roy C. Lintner, Ionia; secretary-treasurer, Dr. John J. McCann, Ionia; chairman medico-legal committee, Dr. C. H. Peabody, Lake Odessa; chairman public relations committee, Dr. F. M. Marsh, Ionia; delegate to State Society meeting, Dr. W. W. Norris, Portland.

The annual dues were placed at \$12.00, including state dues of \$8.75, and Associate Dental Members, \$3.25.

Dr. Richard R. Smith gave a résumé of the Report of the Committee on Cost of Medical Care, which provoked a general discussion. His recommendations to the medical profession were: to go slow, to keep in touch with developments, and to lend influence in keeping them along well directed lines.

A buffet lunch was served to the thirty-five members and guests present, at the close of the meeting.

JOHN J. MCCANN, *Secretary.*

MENOMINEE COUNTY

The following are the new officers of the Menominee County Medical Society for 1933: President, H. T. Sethney, Menominee; vice president, Ed. Sawbridge, Stephenson; secretary-treasurer, W. S. Jones, Menominee.

W. S. JONES, *Secretary.*

MACOMB COUNTY

The annual report of the secretary for the Macomb County Medical Society is as follows:

January meeting, twenty members present. Dr. J. J. Corbett spoke on "The Treatment of Hemorrhoids." One new member, Dr. White, of Fraser.

February meeting, sixteen members present. New member, Dr. M. M. Wilde of Warren. Dr. M. M. Jones of Pontiac spoke on "Obstetrics."

March meeting: Twenty-four members present. Four reels of sound motion pictures on "The Anatomy of the Female Pelvis and Repair of Perineal Lacerations." The nurses of St. Joseph's Hospital were the guests of the Society at this meeting.

April meeting: Sixteen members present. Dr. John Engels taken into membership. Speaker, Dr. Butler of Pontiac.

May meeting: Twenty members present. At this meeting the Society voted fifty dollars to the King's Daughters, to help carry on their baby and chest clinics. Dr. McKenzie of Detroit spoke on "The Use of Radium in Gynecological Conditions."

June meeting: Business meeting. Twenty members present. No business of importance.

July and August: No meetings.

September meeting: Fifteen members present. Dr. Osius of Detroit spoke on "The Injection Treatment of Varicose Veins."

October meeting: Twenty-four members present. Dr. Milton Robb, president of our State Society, gave a talk on "Conditions of the Throat." Dr. C. A. Neafie, our councillor, gave a talk on some of the important legislative matters that had been transacted at the annual meeting of the Michigan Society at Kalamazoo.

November meeting: Eighteen members present. Dr. William A. Keane spoke on "The Present Status of Prostatic Surgery."

The average attendance of the year was 62 per cent of the membership. Three new members were taken in during the year and one of these moved away, therefore automatically causing his resignation. At the present time we have thirty-three paid up members. During the year one member resigned from the Society, Dr. Montgomery of Richmond.

The following officers were elected for the coming year: President, Dr. G. F. Moore; vice presi-

dent, Dr. W. J. Kane; secretary, Dr. J. N. Scher; treasurer, Dr. J. M. Croman, Jr.

The delegate to the annual meeting of the Michigan State Medical Society is Dr. J. N. Scher; alternate, Dr. Russell Salot.

J. N. SCHER, M.D., *Secretary*.

MECOSTA COUNTY

The regular meeting of the Mecosta County Medical Society was held at the Western Hotel, Big Rapids, Tuesday, December 13, 1932. The treasurer of the Society was host.

Those present were: Doctors Yeo, Franklin, Treynor, Kelsey, Campbell, Soper, Kilmer, Grieve, Bruggema, Burkhart; Dentists Shepherd, Rogers, Miller and Shank. Dinner was served at 6:45 p. m. The meeting was called to order by the vice president, Dr. Kelsey, in the absence of President MacIntyre.

The reading of the minutes of the last meeting was deferred to the next meeting in January. Communications were read from State Society, relative to change in amount for dues to be remitted to State Society, now \$8.75 per member, also several letters relative to the "Report of the Committee on Costs of Medical Care," recently made public. Communications were received and placed on file.

The Society then engaged in a round-table discussion of the report. The consensus of opinion seemed to be in favor of the minority report of the committee. Doctors Treynor, Yeo, Kelsey, Campbell, Grieve and Burkhart gave opinions. Dentists Shepherd, Miller and Rogers discussed the work of the Couzens Fund and criticized the method of handling dental work.

The secretary of the Society, Dr. Burkhart, commented on the various opinions of medical and lay press, expressed in the State Journal, *The Journal of the American Medical Association*, and urged all members to read them carefully. Dr. Treynor suggested that no action be taken by this Society until the next meeting in January, 1933, when the members will have had time to read all comments.

Election of officers for 1933 resulted as follows:

President, Dr. James B. Campbell, Big Rapids; first vice president, Dr. E. P. Bunce, Trufant; second vice president, Dr. Paul B. Kilmer, Reed City; secretary-treasurer, Dr. John L. Burkhart, Big Rapids; legal advisor, Dr. James B. Campbell, Big Rapids.

The delegate to the meeting of the State Society is Dr. G. H. Yeo, Big Rapids; alternate, Dr. Paul B. Kilmer.

Financial report of the secretary-treasurer showed all bills paid and a substantial balance in the bank.

JOHN L. BURKHART, *Secretary-treasurer*.

MUSKEGON COUNTY

At our regular September meeting Dr. C. L. A. Oder gave a very instructive paper on "Tonsillectomy by Diathermy." Twenty-two doctors attended the dinner and several more came to the meeting afterward.

The October meeting was held at the Country Club. After the dinner Dr. Loughery gave a paper on "Surgery of the Prostate." Seventy-four were present.

The November meeting was held November 29 at the Century Club. After the dinner Dr. R. I. Busord gave a paper and showed a motion picture on "The Use of Maggots in the Treatment of Osteomyelitis." Twenty-six members were present.

Dr. Bartlett announced the annual meeting to be

held at the Muskegon County Tuberculosis Sanatorium Friday, December 16, 1932.

M. E. STONE, M.D., *Secretary*.

SAINT CLAIR COUNTY

A regular meeting of Saint Clair County Medical Society was held November 1, 1932, at Edgewater Inn, Port Huron, Mich. Supper was served to twenty members of the society and to two guests.

The meeting was called to order with Doctor Patterson, the president, presiding. The scientific program was preceded by a committee report by Dr. J. C. S. Battley, chairman of the committee to arrange for speakers to address Parent-Teachers and other organizations. Doctor Battley stated that a list of speakers with the topics to be discussed by each speaker was in preparation. Dr. T. F. Heavenrich, Councillor of the Seventh District, invited the members of the Society to attend a meeting of the Huron County Medical Society on November 10, 1932. Doctor Heavenrich stated that this was to be the first meeting of Huron County Society held in several years.

Dr. C. K. Valade of Detroit addressed the Society on skin diseases. The speaker covered the subject in a most acceptable manner, taking up the classification, symptomatology and regional distribution of skin diseases. Doctor Valade then discussed the treatment of some of the more common skin diseases and throughout the talk showed many lantern slides of dermal lesions. The discussion was opened in a most acceptable manner by Doctor Battley and carried on by Doctors, Callery, MacKenzie and McColl. After a very wholesome and comprehensive discussion Doctor Valade closed his subject by replying to many of the queries made during the discussion. The meeting was adjourned with a standing vote of thanks to the speaker for the splendid evening enjoyed by all present.

* * *

A regular meeting of Saint Clair County Medical Society was held November 15, 1932, at Edgewater Inn, Port Huron, Michigan. Supper was served to eleven members and two guests.

Doctor Patterson, the president, presided. Eighteen members and two guests were present. The minutes of the preceding meeting were read and adopted. A letter from Doctor S. W. Donaldson of Ann Arbor, Michigan, offering to supply a speaker from the newly formed State Association of Roentgenologists to a future meeting of the Society upon the subject of "The Use of X-ray from a Diagnostic Standpoint," was read. A letter from Dr. Don A. Bailey, Secretary of the Highland Park Physicians Club, inviting the members of the Society to attend the next meeting of that organization and giving a résumé of the program proposed for November 30, 1932, was read. The Secretary then covered the points brought out in the monthly Letter from the Secretary of the State Society.

Dr. Ira M. Altshuler of Detroit addressed the Society upon "Epidemic Encephalitis" in a very acceptable and most interesting manner. The speaker showed a fine knowledge and a practical experience with this most baffling clinical entity. Discussion followed by Doctors DeGurse, Callery, Battley, Heavenrich, LeGalley and Armsbury. Doctor Altshuler closed the subject in the usual manner. A rising vote of thanks was extended the speaker before adjournment.

GEORGE M. KESL, *Secretary-Treasurer*.

* * *

A regular meeting of Saint Clair County Medical Society was held at Edgewater Inn, Port Huron, Michigan, Tuesday, December 6, 1932. Supper was

served to fifteen members and five guests after which the meeting was called to order by President Patterson, with eighteen members and five guests present.

The minutes of the preceding meeting were read and approved.

The essayist of the evening was Dr. C. G. Weltman, of Detroit, who addressed the society upon the subject of "Renal Calculus." Beginning with a comprehensive survey of ancient medical history the speaker took his hearers through the entire subject including theories of etiology, symptoms, a description of renal colic and finally treatment, after which a series of slides with pathological specimens were demonstrated.

The chief points stressed by Doctor Weltman were as follows: (1) There are three types of calculi, generally speaking, oxalate, phosphate and urate, of which the first two give the most trouble, the latter type being small and more easily passed or overlooked; (2) the most recent theory of etiology is that there is an unbalanced colloid concentration, the result of a long continued lack of vitamin A in ingested food plus a secondary factor of slowing in urinary secretion; (3) all attacks of colic are not due to the formation of calculus but may, in some cases, be due to swelling of the mucosa, spasm of the ureter or kink in the ureter, all of which act in pain production by causing a back pressure dilating the pelvis of the kidney and stretching the capsule; (4) in such event, i.e., renal colic, the quicker the back pressure be relieved the less damage results to the parenchyma of the kidney and in the essayist's own plan of treatment a ureteral catheter is passed by the calculus or obstruction as soon as possible after the colic is noted; (5) the normal reaction of secreted urine is acid, therefore anything which causes a long continued alkalinity of the urine favors the formation of a calculus; in the speaker's own experience patients in bed on a Sippy diet over a long period often develop calculus—the factor of a prone position, the patient lying on his or her back, plus the changed reaction of the urine, favors the formation of renal calculi; (6) the chief bacterial agents are the staphylococcus albus and the bacilli of the colon group; the former cause an alkaline reaction and the latter an acid, the former being more difficult, by far, to clear up, if, indeed, the infection can be eradicated at all; (7) with a calculus and infection in one kidney and with a normal or near normal degree of function and freedom from infection and calculus in the other kidney it is best to do a nephrectomy on the affected side, because unless this is done the sound kidney will eventually become infected, this being especially true when the bacterial agent is the staphylococcus; and (8) it is good surgery to decompress a kidney first as is done in prostatic work before proceeding with nephrotomy or other operation; if necessary both pelves may be drained.

H. W. Plaggemeyer opened the discussion, followed by Doctors DeGurse, Heavenrich, MacPherson, Callery, Brush, Lammy and Patterson. After the discussion Dr. Weltman closed the discussion. The President thanked the speaker and the Society extended him a rising vote of thanks before adjournment.

GEORGE M. KESL, *Secretary-Treasurer*.

SANILAC-HURON COUNTY

A meeting of the Sanilac-Huron County Society was held at Brown City, December 5, 1932.

It is to be doubted whether even a more enthusiastic gathering of medical men took place than at this meeting, held in a small town and in a county boasting of only nineteen doctors.

There were present at this assembly one hundred and five doctors and they came from all parts of this territory. Huron, Lapeer, Tuscola, St. Clair, Wayne, Genesee, Bay, and Sanilac were all represented.

One of the most pleasing features of the evening was the attendance of Councilor Paul Urmston and fourteen doctors from Bay City, likewise the State President and four ex-presidents in the persons of Drs. Angus McLean, Louis Hirschman, Herbert Randall and Carl Moll.

Each of these honored guests had a message for us, and much time was given to the discussion of Medical Economics. A decided unity of opinion was evident and those present gathered much to clarify the situations as related to their individual counties.

Doctor Johnson of Caro described in detail what his society had accomplished in regard to indigent care and pay for the doctor. It is hoped in the near future he will give the details to the State Journal, so that other counties may copy. They have gone far towards the solution of this vexing problem.

The addresses given by the above named past presidents and the able Doctor Robb were enthusiastically received but it took the old reliable Dr. John Campbell—The Orator of the Thumb district—to bring the men to their feet with his able appeal for Harmony, Unity and Steadfastness in order to combat the inroads of State Medicine.

It is needless to say, the fight is over in this seventh district. We are back of our State and National organization to a man. A call for help will result in one hundred per cent support.

T. H. HEAVENRICH, *Councilor*.

TUSCOLA COUNTY

The regular meeting of the Tuscola County Medical Society was held December 1, 1932, at Caro, Michigan. Election of officers resulted as follows: President, Dr. O. C. Johnson, Mayville; vice president, Dr. Annie Stevens Rundell, Mayville; secretary-treasurer, Dr. Lloyd L. Savage, Caro.

The following were appointed members of the Public Health Legislation committee: Dr. W. Petrie, Caro; Dr. S. H. Kavin, Unionville.

Delegate to the State Convention is Dr. C. N. Race, Caro, with Dr. E. C. Swanson, Vassar, as alternate.

LLOYD L. SAVAGE, M.D., *Secretary-Treasurer*.

AORTIC STENOSIS WITH CALCIFICATION OF THE CUSPS

According to Henry A. Christian, Boston, there is a form of cardiac lesion, not infrequent, which has a clinical picture so characteristic that it deserves more frequent recognition than it commonly receives. Its characteristics are: (1) occurrence chiefly in males relatively late in life; (2) slow progression of the lesion with symptoms of decompensation appearing late, though not necessarily prolonged after their development; (3) the presence of a systolic thrill and harsh, loud systolic thrill in the aortic area, with or without a diastolic murmur of aortic insufficiency; (4) often a characteristic pulse with a normal or decreased pulse pressure; (5) enlargement of the heart; (6) a history of rheumatism early in life; (7) roentgenographic demonstration of calcification in the region of the aortic valve, and (8) at autopsy stenosis of the aorta with deposits of calcification in the cusps—while the other valves are not organically abnormal—and great hypertrophy of the heart. The author reports twenty-one such cases in which the diagnosis was confirmed by necropsy.—*Journal A. M. A.*

WOMAN'S AUXILIARY, MICHIGAN STATE MEDICAL SOCIETY

MRS. F. A. MERCER, President, Pontiac, Mich.
MRS. E. L. WHITNEY, Vice President, Detroit, Mich.
MRS. HERBERT HEITSCH, Secretary, Pontiac, Mich.

KENT COUNTY

On Wednesday evening, April 13, 1932, a meeting was held in the home of Mrs. Thomas C. Irwin, to introduce Mrs. Earl McIntyre, state president, and Mrs. Guy Kiefer, state organizer of the Women's Auxiliary of the State Medical Society. Mrs. Kiefer explained the purpose of the organization, pointing out its value from an educational, philanthropic and social aspect in connection with the State Medical Society. A charming tea followed the program. There were about ninety women present.

The next meeting was held on April 20, 1932, in the Club Rooms of the Kent County Medical Society. Mrs. Thomas Irwin presided. General plans were discussed, and the following officers and chairmen of committees were elected: Mrs. Thomas C. Irwin, president; Mrs. Carl Snapp, vice president; Mrs. John M. Whalen, corresponding secretary; Mrs. John N. Holcomb, recording secretary; Mrs. A. V. Wenger, treasurer. Constitutional Committee: Mrs. A. B. Smith, Mrs. Ferris N. Smith. Social Committee: Mrs. Burton R. Corbus. Teams Committee: Mrs. A. J. Baker, Mrs. E. P. Billings. Educational Committee: Mrs. J. B. Whinery. Public Relations: Mrs. Richard Smith. Philanthropy: Mrs. Ward Ferguson. Historian: Mrs. P. L. Thompson.

On May 18 Dr. Ferris N. Smith addressed the group of women, presenting a paper on "Plans for the Reduction of Costs of Medical Care." This talk was most enthusiastically received.

The final event of the Auxiliary's activities for the season terminated in a luncheon at the Cascade Country Club, at which about one hundred doctors' wives were present.

The first fall meeting was held on October 5, 1932, when plans for the winter's activities were discussed. About eighty women were enrolled as members of the Auxiliary at that time.

A benefit bridge party was held on November 30 in the evening. About one hundred and eighteen Auxiliary members and friends were present. It was a very delightful and successful event. Proceeds from the party were given to Dr. Edwards towards the poor children's Christmas party that Dr. Edwards has been sponsoring for several years. The Y. W. C. A. has very kindly offered us the use of their rooms for our meetings which are held at the same time the Kent County Medical Society meets. We are greatly indebted to them for their kind hospitality.

There was no meeting in December, but a very interesting program has been arranged for the January meeting.

ORBA D. TORGERSON.

OAKLAND COUNTY

At the November meeting of the Oakland County Women's Auxiliary a most interesting talk was given by Miss Christine Mackenzie, Director of the Outpatients Department of the Women's Hospital in Detroit. She discussed the Maternal Health Clinic and its activities in that hospital. There followed a Hygiea exhibit, and later tea was served by two past presidents, Mrs. Frank Mercer and Mrs. Robert H. Baker, to members and their guests.

WAYNE COUNTY

The regular monthly meeting of the Woman's Auxiliary to the Wayne County Medical Society was held on Tuesday, November 8, 1932, in the Society's Club rooms, Woodward at Canfield, Detroit, at 2 p. m.

Miss Margaret C. Babcock was the speaker for the afternoon. Her subject was "Speech Improvement Training."

Miss S. S. Wittenberg, mezzo soprano, sang a group of songs with Mrs. Sol Kesler at the piano.

The Welfare Committee reported thirty-six garments completed for the needy school children, including sweaters, underwear and dresses. They have also completed several bags for the Red Cross. This committee earnestly requests all members to help with this worthy cause. The sewing groups are held in the Wayne County Club rooms on the first Tuesday of every month from 10 a. m. until 3 p. m. and every third and fourth Tuesday evening of every month. The women usually attend these sewing bees on the Tuesday evenings as mentioned above while their husbands are attending the scientific meeting of the Wayne County Medical Society in the Maccabees building. After the scientific meeting the doctors and their wives join in whatever entertainment is in progress given by the Welfare Committee.

The Ways and Means Committee reported that a (\$5.00) five dollar Donor Deluxe luncheon will be given February 1, 1933, at the Hotel Statler.

For many weeks the women of the Ways and Means Committee have been busily engaged with preparations for their *Donor Luncheon*. This committee extends a very cordial invitation to the wives, mothers, daughters and sisters of the members of the Wayne County Medical Society to help with the Wayne County welfare and many other objects. Reservations can be made by calling University 2-4124. Here is just an idea of what some of the members are doing. One member is giving knitting and smocking lessons at the Wayne County Medical Society club rooms on the Tuesday evenings that the women meet to sew for the needy children. Another member is selling her recipes for 10 cents each. She is also selling Christmas cards. Her telephone number is Euclid 0146 W. Two of the members are giving a cookie party. Three other members are planning to give a bridge tea. One of the members is selling the *Better Homes and Gardens* magazine. Two members are planning a bridge luncheon.

The Publicity Committee reported sending articles in to the Bulletin every week since the initial meeting in the fall which was held on September 20, 1932. Articles and some pictures have been sent to the four papers every month.

The Membership Committee reported twelve new members.

The Program Committee reported that the year books have all been mailed out to the wives of all members of the Wayne County Medical Society. The entertainment throughout the year will be given by professional entertainers. On the cover of the Year Book is a reproduction of the home of the Wayne County Medical Society. The insignia of the Woman's Auxiliary to the Wayne County Medical Society appears on the back page of the year book.

MRS. L. T. HENDERSON, *Publicity Chairman*.

All news and announcements concerning auxiliary activities are to be sent in to Mrs. S. L. DeWitt, 612 Pennoyer Ave., Grand Haven, Mich., by the first day of every month as has already been requested by personal letter.

OF GENERAL MEDICAL AND SURGICAL INTEREST

MASSACHUSETTS AND ARIZONA VOTE ON CHIROPRACTIC ACTS

On election day, November 8, the citizens of Massachusetts and of Arizona will vote on initiative petitions to promote the practice of chiropractic. The Massachusetts Medical Society and the Arizona Medical Association have given ample warning of the menace to public health should the laws that the chiropractors propose be enacted. The principles of ethics emphasize the duty of physicians to warn the public against devices and false pretensions that may cause injury to health and loss of life. On election day, every physician in Massachusetts and in Arizona should discharge that duty to the best of his ability.

Massachusetts has never legalized chiropractic. The chiropractors, therefore, are appealing directly to the people. They modestly define chiropractic as "the science or practice of locating and adjusting by hand the malpositions of the articulations of the human spine." The chiropractors of Arizona defined their calling in the same manner when they procured the enactment of the chiropractic act now in force; but that was in 1921. Now they seek authority to practice what they call "chiropractic," but they define it as "that system of treatment that employs palpation, nerve tracing, analysis, and adjustment of any displaced vertebrae in the spinal column and of any other abnormalities, and which teaches that abnormal health is caused by the interference with nerve energy and that health is restored by the locating and removing of any interference with the transmission of nerve energy." The pending Massachusetts initiative act proposes to forbid any chiropractor from practicing obstetrics, administering drugs or performing surgical operations. The Arizona act of 1921 contained just such limitations, but now the chiropractors of Arizona are asking removal of the limits. Apparently this business is not profitable, if it is limited to manipulations of the spine performed by the hand only. The chiropractors seek, therefore, the right to treat any and every part of the body, for any and every disease and injury to which it is subject, and to use every available method of diagnosis and treatment. They want to be converted into doctors of medicine without being required to possess the qualifications. This is an excellent demonstration of the chiropractic desire to enter medical practice through the basement.

The Massachusetts chiropractors do not ask the right to sign death certificates. They propose that such certificates be signed by the medical examiners of the districts in which the deaths occur. The Arizona chiropractors, however, who are not allowed to sign death certificates, now seek the right to do so. The Arizona chiropractors are seeking even a statutory right to practice chiropractic in every hospital and public institution supported in whole or in part by public funds. As a climax to their demands, they propose that the license fees and annual registration fees of Arizona chiropractors be increased, and that the entire increase be paid to the state chiropractic association to enable it to promote the interests of chiropractic in Arizona. This would make the state officials act as collector and treasurer for the chiropractic organization and force every chiropractor into membership.

The experience of Arizona should warn the voters of Massachusetts that the chiropractic measure be-

fore them is the thin edge of a chiropractic wedge. If it is once introduced into the Massachusetts code, the people may look forward to efforts to drive it home so as to expand chiropractic in Massachusetts as it is proposed today to expand it in Arizona.

In Arizona, the danger of the initiative chiropractic act is graver than in Massachusetts, not only because of the greater demands of the chiropractors but also because the Arizona legislature cannot amend or repeal an act adopted by the initiative process, as the Massachusetts legislature can do. In Arizona, only a new initiative act can change an initiative act that has once been adopted. The difficulty of combating the chiropractic menace in Arizona is unusually great, too, because the voting population is scattered over so large an area. These difficulties, however, make it more important that every Arizona physician devote himself on election day to the defeat of the chiropractic menace.—*Jour. A. M. A.*, Nov. 5, 1932.

JOSEPH F. F. BABINSKI, 1857-1932

(NEW ENGLAND JOURNAL OF MEDICINE)

The death of Dr. Joseph Francisco Felix Babinski, October 30, in Paris, France, removes from the medical world a figure of international fame. He died at the age of seventy-five, after a career in neurology and medicine that made his name known in every clinic and to almost every doctor in the world. Babinski was one of the founders of the Society of Neurology of Paris, a member of the French Academy of Medicine and a commander of the Legion of Honor.

Of Polish descent, although born in France, November 18, 1857, Babinski graduated in medicine from the University of Paris in 1885 with a thesis on multiple sclerosis, of outstanding value for its time. This paper was the first of a long series of articles, the chief of which were gathered together in an extensive, documented bibliography, in 1913. Here one finds extracts from his papers, as well as the striking illustrations so characteristic of Babinski's publications. This work, one of extreme value, gives a clear idea of the active nature of Babinski's mind and the multiplicity of his investigations into practically all of the divisions of neurology. He added many signs to clinical medicine, the most important being the reflex which goes under his name.

Babinski's sign was first described in a preliminary note read before the Société de Biologie, February 22, 1896; it was a simple statement that, "in certain cases of 'paralysis,' the toes on the affected side, instead of flexing when the sole is stimulated, execute an extensor movement on the metatarsal." Two years later, he gave a full account of this phenomenon and his excellent description summarized the important features of the normal and pathological plantar reflex in human beings. To his description there has been little to add, in later years, although the fanning of the outer toes, which often is part of the reflex, was not mentioned in the original paper, but was separately described in 1903. An immense literature has grown up surrounding Babinski's sign since the date of the original description and it is now firmly established that this reflex, indicating disease or injury of the pyramidal pathway, is only second in importance to the Argyll-Robertson pupil as a sign of a structural lesion of the central nervous system. Babinski's description was soon brought to the attention of the English-speaking medical world by the paper of James Collier, published in 1899, in which Collier first fully appreciated the functional significance of the normal plantar reflex and its pathological counterpart, the Babinski sign. More recently, this re-

flex has been the subject of an extensive investigation by Professor John F. Fulton of the Yale Medical School. He has traced the development of the reflex through the primate series of animals in his "The Sign of Babinski; a Study of the Evolution of Cortical Dominance in Primates." In Professor Fulton's monograph one will find a translation of Babinski's original description, a discussion of the subject of the plantar reflex in general, as well as a brief summary of the clinical implications of bilateral cortical lesions as noted in traumatic cerebral diplegia and in Little's disease.

As a clinical neurologist and teacher Babinski held a high place in Paris for many years, although somewhat overshadowed by Pierre Marie and Jules Déjerine. Originally chief of Charcot's clinic, Babinski later developed his own clinic at the Hôpital de la Pitié, one of the more modern hospitals in Paris, situated not far from the famous Salpêtrière. Here his clinic grew to great proportions; a good description of his justly famous Monday morning demonstrations is contained in an article by Dr. Malford W. Thewlis.

Babinski's work on functional diseases has been rather obscured by the eponymic character of his description of a single reflex. He added greatly to our knowledge of nervous disorders in general, playing a particularly important rôle in postwar Paris, where he had hundreds of soldiers under his care. By his death medicine loses a great figure, a man who will always be remembered on account of his name's being attached to an important reflex, but whose contributions to the whole subject of neurology were of outstanding value.

EFFECTS OF USE OF CAUTERY PUNCH OPERATION ON NECESSITY FOR PROSTATECTOMY: PRESENTATION OF NEW CYSTOSCOPIC IRRIGATING, FULGURATING ATTACHMENT TO CAUTERY PUNCH INSURING DOUBLE VISUALIZATION

Thirteen years ago, John R. Caulk's, St. Louis, operation was apparently limited in usefulness to the bars and contractures of the vesical neck, but during the process of development it has been gradually applied to the larger obstructions with equal effectiveness, until at present he finds that, at least in his hands, it is effective in almost 100 per cent of all obstructions, regardless of size; indeed, during the past year he has performed but one prostatectomy. The author is performing the punch operation for the relief of all obstructions occasioned by cancer of the prostate. He has also found it admirably effective in correcting both immediate and late postoperative obstructions following incomplete suprapubic enucleation and in hastening the closure of indolent suprapubic fistulas when for obvious reasons, such as the intervention of serious complications, the enucleation has not been undertaken for fear of jeopardizing the patient's life. It has been equally efficacious in removing the obstructions at the neck of the bladder in women and children resulting from congenital or inflammatory contractures. In his series of 781 cases there have been 4 women and 3 children, 2 girls and a boy. The children were affected with chronic pyelonephritis with uremia complicating congenital contractures at the vesical neck, and their obstruction was entirely relieved by means of the "child's punch." The author presents an improved instrument consisting essentially of the cautery punch sheath and the punch tube, with the addition of a carrier for the McCarthy foroblique lens system, an irrigating channel provided with a small water-tight device uncomplicated by screws or

ratchets and another small attachment which enters the irrigating channel, constructed for the purpose of carrying a fulgurating electrode which is easy to manipulate and also effective in applying a light spark to the site of bleeding so that hemorrhage can be accurately controlled. The small rectangular bakelite button, which is fused to the electrode, permits of free rotation. The direct forward vision provided by the cystoscopic component enables the operator not only to visualize the tissue both prior and subsequent to resection but to determine the presence of persisting obstruction. The improved instrument embodies certain features lacking in the previous model which will ultimately enable it to attain a higher degree of efficiency in the treatment of prostatic obstructions.—*Journal A. M. A.*

OPERATIVE RELIEF OF PROSTATIC OBSTRUCTION

Henry G. Bugbee, New York, states that the earliest surgical attempts to relieve prostatic obstruction were attended by a high mortality rate and unsatisfactory functional results owing to a lack of a clear understanding of the pathology of the prostate and secondary changes in the body, and also to incomplete operation. With a clearer understanding of the pathologic changes of prostatic obstruction and its far-reaching effect on the various systems of the body, the institution of a careful study of the various body functions, especially renal function, the proper preparation of the patient for operation and the well conceived operative technic and postoperative care, prostatectomy for hypertrophy has taken a place where it compares favorably with any major operation on any similar class of patients who are operative risks. With the perfection of modern cystoscopes and urethrosopes and the use of electrodes capable of carrying high frequency currents of high potentiality, resection of the prostate, namely, the removal of sections of tissue of sufficient size to relieve obstruction, is possible in carefully selected cases, under sight and with the control of hemorrhage. The scope of applicability of the latter method and the permanence of the results will depend on its further use and observation extending over a long time.—*Journal A. M. A.*

RESULTS OF PROSTATE RESECTION OVER A PERIOD OF SEVEN YEARS

Hermon C. Bumpus, Jr., Rochester, Minn., has felt that the tardiness of the urologists in adopting the Caulk cautery punch operation for the treatment of urinary obstruction was due to the lack of adequate vision afforded by Caulk's cautery punch operation, for when Davis modified Stern's resectoscope so that portions of obstructing tissue could be resected under ample vision, the interest aroused was almost immediate, although the fundamental principles of the procedure are identical. Believing that these principles were sound and having employed Caulk's instrument in twenty-three cases, he used it in fifty cases of urethral obstruction during the years 1925 and 1926. In fifteen, the removed tissue was adenofibromatous, and in thirty-three the inflammatory reaction predominated the microscopic picture. In two cases the specimens of tissue have been lost. Twelve of the fifteen patients suffering from adenomatous hypertrophy were operated on in 1925. Nine have written in 1932 as follows: 1. "Urination has not improved but I feel fine." Fifteen months after the operation examination for residual urine was made and none was found. 2. "Improved for but a few months." 3. "For a couple of years not so good, now urination is fine." Examination was made in the last case for residual urine four years after operation and only 10 c.c. was found;

prior to operation 60 c.c. was present. 4. "Have no trouble at all in starting stream." 5. "No difficulty since operation." Cystoscopic examination in this case recently did not reveal residual urine. 6. "I have had scarcely any difficulty since operation." 7. "Urination improved, have never used a catheter." Seven years previously this patient had had 190 c.c. of residual urine. 8. "Had to have a prostatectomy a year after your punch operation. Urine is now cloudy with heavy sediment." The ninth patient returned to the clinic this year; although there was 150 c.c. of residual urine before the resection by cautery seven years previously, none was found on recent examination. Since adopting this method of resection, up to Jan. 1, 1932, the author has used it in 187 cases of urinary obstruction; 75 of these cases were due to benign adenomatous hypertrophy and 93 to chronic inflammatory disease, 17 to carcinoma and 2 to tuberculosis. He concludes that the late results of transurethral resection would indicate that recurrence of the obstruction even in cases of adenofibromatous hypertrophy is the exception, and that complete relief from residual urine by the entire removal of all obstructing tissue is essential to success, and therefore makes the transurethral resection of excessive amounts of tissue to relieve obstruction a hazardous procedure, preferably undertaken by prostatectomy.—*Journal A. M. A.*

INSURANCE PLANS AND THE DOCTOR

Various groups have for some time been casting covetous glances at the possibilities for profit that exist in the application of business methods towards bridging the gap between doctor and patient. Plans innumerable, based on the idea that added income could accrue through bringing the doctor's service to the patient's door, have been repeatedly proposed by agencies outside the profession. To all of these the profession has up to this time turned a deaf ear. Now, however, fresh effort, encouraged both by the anticipated report of the Committee on the Costs of Medical Care, and the greater likelihood of a cordial reception on the part of physicians, is being directed towards the widespread adoption of health insurance plans of one sort or another, and it is certain that many members of the medical profession will very soon be called upon to decide for or against these plans.

Shall the physician become the employee of promoters who assure him, at least in the beginning, a steady income perhaps higher than that which he now earns? Or shall he oppose these plans because they include only a small percentage of the doctors in his community, impoverishing the remainder who must perforce exist on left-over crumbs?

Confronted with the necessity of making a decision, the average doctor may, under the stress of present circumstances, cast his lot with some one of the insurance plans. In so doing, however, he must bear in mind that he is giving up the private practice which he has taken years to build, the independence that he has enjoyed, and the privilege of deriving from his life's work those pleasures which the individual of culture and education normally expects. He is exchanging all of this for an assured income paid him for seeing daily a certain number of patients, and treating them by what must eventually become mechanical routine. He becomes, in short, an artisan in the employ of a group that is primarily interested in realizing a profit on its investment. Moreover, the income of which he may feel so assured in the beginning is quite likely to shrink with diminished profits, and may even dry

up completely should the plan with which he has affiliated himself prove unsuccessful. In the end, then, the insurance doctor may find himself confronted with the necessity of starting out anew and building a practice from among the thinned ranks of uninsured patients.

To remain aloof from such plans because of their obvious disadvantages and because of the inroads they would be making on medical practice, the physician must be assured that he will not be left standing alone in defense of a principle. Not only must he be assured that the rank and file of the profession will be with him in his stand, but he needs, in addition, an adequate weapon to aid him in withstanding the onslaughts of those who would invade the domain of private medical practice. Whether that weapon takes the form of a counter plan of either complete health insurance with the objectionable features removed, or partial insurance against hospital costs and the technical procedures of medical practice, will be of small moment. Emanating from the medical profession and controlled by that body, it is bound to carry greater weight than any proposal brought forward by outsiders, and is certain to thwart any efforts to disrupt medical practice.

As preferable as it may seem to stand by and hopefully watch these plans come to grief, the possibility of some one or several of the schemes proposed by outsiders meeting with success should spur the profession to thought and action along this line. Doctors in the front line trenches need every support that can be mustered to help them in deciding against giving up their private practices and becoming the employees of non-medical profit seeking groups.—*The Bulletin of the Wayne County Medical Society.*

ROENTGENOTHERAPY OF MALIGNANT NEOPLASMS OF PHARYNX AND LARYNX

According to Maurice Lenz, New York, roentgenotherapy of malignant neoplasms of the pharynx and larynx has up to recently been successful in only occasional instances. The results have improved since the principles controlling radiosensitivity have become better understood and a new, more intensive technic of roentgenotherapy has been perfected by Coutard of the Curie Institute of Paris. The majority of malignant neoplasms of the pharynx and larynx usually do not spread beyond the head and neck until late in the course of the disease, and the entire cancer-bearing area may thus be included within the field of intensive irradiation. For the correct application of this treatment, familiarity with the microscopic observations, the gross anatomy and the clinical behavior of the neoplasms to be treated is essential. Of the thirty-three patients treated, twenty-six were either not benefited clinically or improved temporarily, but the process again became active in less than a year. A number of these patients are still fairly well though they have cancer. Seven others have now remained free from clinical evidence of disease from six months to two and one-half years after treatment. The small number of cases and the short time of observation do not permit final evaluation of this modification of Coutard's method of roentgenotherapy of malignant neoplasms of the pharynx and larynx. However, the results obtained so far are encouraging, and the shortening of the daily duration of treatment seems so important from the standpoint of hospital economy that the author thinks that this method merits further trial.—*Journal A. M. A.*